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Proposal # 2001-E200 (Office Use Only)

CALFED Bay-Delta Program

PSP Cover Sheet

Proposal Title: Phase 11: Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands (Construction and Monitoring)

Applicant Name: Association of Bay Area Governments for the San Francisco Estuary Project

Contact Name: Eugene *Y*. Leong, Executive Director

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Amount of funding requested **$1,037,150.**

Some entities charge different costs dependent on the source of the funds. If it is different for state or federal funds list below.

State cost: no difference Federal cost: no difference

Cost share partners? __X__ Yes ___ No

Identify partners and amount contributed by each Total Cost Share **$457,275.**

- State Levee Flood Protection Program: $368,350.
- Association of Bay Area Governments: $25,925.
- Delta Channel Island Work Group Members: $63,000. (In-kind service/overhead)
  Members include: US Fish and Wildlife Service, US EPA, US Army *Corps* of Engineers, CA Dept. of Fish and Game, Dept. of Water Resources, Delta Protection Commission, State Lands Commission, SF Bay Regional Water Quality Control Board, San Francisco Estuary Project

Indicate the Topic for which you are applying (check only one box).

- _ Natural Flow Regimes
- _ Nonnative Invasive Species
- _ Channel Dynamics/Sediment Transport
- _ Flood Management
- X Shallow Water Tidal/ Marsh Habitat
- _ Contaminants
- _ Beyond the Riparian Corridor
- _ Local Watershed Stewardship
- _ Environmental Education
- _ Special Status Species Surveys and Studies
- _ Fishery Monitoring, Assessment and Research
- _ Fish Screens

What county or counties is the project located in? Contra Costa and San Joaquin

What CALFED ecozone **is** the project located in? See attached list and indicate number. Be as specific as possible 1.4(Central and West Delta)

Indicate the type of applicant (check only one box):

- _ State agency
- _ Federal agency
- _ Public/Non-profit joint venture
- _ Non-profit
- X Local government/district
- _ Tribes
- _ University
- _ Private party
- _ Other:

Indicate the primary **species which the proposal addresses (check all that apply):**

	San Joaquin and East-side Delta tributaries fall-run chinook salmon		
	Winter-run chinook salmon		Spring-run chinook salmon
	Late-fall run chinook salmon		Fall-run chinook salmon
X	Delta smelt	X	Longfin smelt
X	Splitail		Steelhead trout
X	Green sturgeon		Striped bass
X	White Sturgeon	X	All chinook species
X	Waterfowl and Shorebirds	X	*All* anadromous salmonids
X	Migratory birds	X	American shad
X	Other: Special Status Plants: Rose mallow, Mason's lilaeopsis, Suisun Marsh aster		

Indicate the type *of* project (check only one box):

	Research/Monitoring	Watershed Planning
X	Pilot/Demo Project	Education
	Full-scale Implementation	

Is this a next-phase of an ongoing project? Yes X No
Have you received funding from CALFED before? Yes X No

If yes, list project title and CALFED number: Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands (Design and Permitting) **# 97-N11**

Have you received funding from CVPIA before? Yes No X

If yes, list CVPIA program providing funding, project title and CVPIA number (if applicable):

By signing below, the applicant declares the following:

- The truthfulness of all representations in their proposal;
- The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization);
- The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all **rights** to privacy and confidentiality of the proposal on behalf of the applicant, to the *extent* as provided in the Section.

Eugene Y. Leong Executive Director
Printed name of applicant

Eugene Y. Leong
Signature of applicant

Signature f appli

B. Executive Summary

Proposal Title: Phase 11: Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands (Construction and Monitoring). A continuing CALFED uroject. Requesting $1,037,150.

Applicant Information: Association of Bay Area Governments for the San Francisco Estuary Project, Contact: Eugene Leong (eugenel@abag.ca.gov), P.O. Box 2050, Oakland, CA, 94604-2050. Phone: (510) 464-7910. **FAX:** (510) 464-7985.

Participants and Collaborators: U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, U.S. EPA Region 9, CA Dept. of Fish and Game, CA Dept. of Water Resources, CA Dept. of Boating and Waterways, State Lands Commission, Delta Protection Commission, land owners, reclamation districts, environmental and boating groups, engineering firms.

The Delta In-Channel Island Work Group (DCI) is proposing to complete an on-going CALFED pilot project to demonstrate the potential for biotechnical erosion control methods to: 1) protect disappearing Delta in-channel islands (ICIs) from further erosion, and 2) to facilitate sediment accretion on a localized scale around the perimeter of these ICIs. The three demonstration sites include two unnamed ICIs in the channels surrounding Webb Tract and Little Tinsley Island in the San Joaquin River just south of Empire Tract in the Sacramento-San Joaquin River Delta.

Historical aerial photographs and empirical observation indicate that ICIs today are substantially reduced in numbers and in individual extent, impacting the availability of tidal wetlands for a wide variety of fish, wildlife and plant species recognized by CALFED as being important to conserve (i.e. chinook salmon, delta smelt, neo-tropical migrant birds, western pond turtle, giant garter snake, Mason's lilaeopsis, Suisun marsh aster, rose mallow, and others).

The completed project design identifies and addresses the primary stressors at each site, including dredging activities, changes in watershed hydrodynamics, disturbance caused by commercial and recreational boating, and loss of shallow water habitat due to channel form changes. This project has two main objectives. The first is to demonstrate that the erosion of ICIs can be slowed, stopped or reversed using biotechnical erosion control methods. The second objective is to demonstrate that biotechnical erosion control methods can be successfully installed with positive effects on important/priority fish, wildlife and plants. Testable hypotheses support each of these objectives, and will ultimately be used to adaptively manage the project for improved performance and provide CALFED with a better understanding of how to conserve similar tidal wetlands throughout the Delta where natural processes aren't sufficient to establish and maintain such habitat.

CALFED recognizes the biological value of these ICIs in its Ecosystem Restoration Program (ERP) and its Strategic Plan for Ecosystem Restoration. One of the goals of the ERP is to "protect existing mid-channel islands and shoals in order to provide high-quality habitat for fish and wildlife dependent on the Bay-Delta". This proposal addresses issues of scientific uncertainty in the Delta's shallow water, tidal and freshwater marsh habitats. Specifically, what kind of environmentally sensitive methods can be employed in the short-term to protect biologically rich ICIs in the absence of adequate sediment transport dynamics that historically maintained a healthy balance of emergent wetlands.

C. Project Description

1. Statement **of** the Problem

a. Problem - There is no question that the extent of the Delta's historic tidal wetlands have been drastically reduced since the reclamation of land for farming began in the late 1800's. Seasonal flood flows are now kept from spreading across thousands of acres of fertile soils by a system of levees. Consequently, the only emergent landforms still subject to river flow, tidal action and other natural processes in the Delta are the levee/channel interfaces, and narrow, remnant in-channel islands **(ICIs)** that intermittently thread their way through the rivers and sloughs.

There are other significant factors that make matters worse for the Delta's tidal wetlands, specifically ICIs. Large dams have been built in the watershed upstream of the Delta for water supply, power generation and flood control. These dams incidentally capture the bulk of fine and coarse sediments that would have provided an essential force in downstream river morphology. Consequently, the cleaner water is "hungry" for the sediment it left behind the dam. To compensate, these sediment deprived rivers work to pick up sediment rather than deposit it. These same "hungry" waters eventually flow through the Delta, still looking for loose material to erode and suspend. Thus is the fate of the ICIs. **A** 1997 review of historic and current aerial photographs of the Delta strongly indicates a significant net loss of ICI surface area. Natural ICI replenishment does not appear to be keeping up with erosion.

In addition to the effects of changed river hydrodynamics, ICIs are subject to the detrimental effects of boat wakes. Recreational boating is very popular in the Delta. Some recreational boats can cast a 1-2 foot wake that chews away at the edges of ICIs. Depending on the soil characteristics of the ICI, several shoreline feet can be lost in a single boating season.

Basically, the ICIs in the Delta are disappearing with little hope for regeneration from natural processes. Unless natural processes are restored to the Delta system and its watershed, ICIs will continue to be lost. DCI is trying to protect both the physical and biological values of the ICIs. Conventional measures (riprap, bulkheads), while effective at resisting physical forces, are detrimental to aquatic resources. Biotechnical erosion control is a reasonable, alternative approach that preserves important biological values associated with ICIs.

So why is the loss of ICI habitat of interest to CALFED and why should CALFED fund a demonstration project that promotes ICI protection and enhancement? Loss of habitat is one of the top reasons for the dwindling populations of a wide array of fish, wildlife and plants that depend on Delta wetlands and associated habitats for all or part of their life histories. Several of these organisms are State and Federal listed **as** threatened or endangered, and are targets of CALFED's Ecosystem Restoration Program. Most of the Delta's resident and anadromous fish are known to utilize nearshore, shallow water habitat for feeding, resting, predator escape and reproduction (Recovery Plan for the Sacramento/San Joaquin Delta Native Fishes 11/96). The Delta's ICIs form much of what remains of unaltered, unarmored, undisturbed tidal wetlands. It is no wonder that many of the Delta's threatened and endangered plants, including Suisun marsh aster, Mason's lilaeopsis and rose mallow, find sanctuary on ICIs.

Generally, the ICIs constitute an important remnant component of the Delta's once vast network of tidal wetlands, mudflats and riparian scrublands which provide habitat for resident fish species; Bay-Delta aquatic food web organisms; shorebird and wading bird guild; waterfowl; upland game species; and neotropical migratory bird guild. The Strategic Plan for Ecosystem Restoration identifies a goal of protecting and restoring the functionality of several habitat types addressed by this proposal including: mid-channel islands and shoals; tidal perennial aquatic habitat; shaded riverine aquatic; and emergent marsh. The Strategic Plan identifies many endangered and target species that will benefit fiom this action including migrating and rearing Chinook salmon (fall, winter and spring runs), Delta smelt, longfin smelt, steelhead, striped bass, green sturgeon, anadromous lampreys and Sacramento splittail. ICI preservation will also benefit several other priority animal species including the western pond turtle, California black rail and the giant garter snake. The upper tidal zone of many of the ICIs supports the sensitive plants mentioned above.

Objectives of this proposal:

1. To demonstrate that the erosion of ICIs can be slowed, stopped or reversed using biotechnical erosion control methods.
2. To demonstrate that biotechnical erosion control methods can be successfully installed with positive effects on important/priority fish, wildlife and plants.

b. Conceptual Model – The dynamic equilibrium of the Delta pre-1850 has been lost. Hydrology has been altered in timing as well as diminished. Sediment input has been greatly interrupted by dams positioned low on all of the major tributaries, trapping most sediment that was moving downstream. Levees and bank protection reduce the lateral erosion of the river channels in the valley floor reaches. The Delta itself has been largely diked and channeled. Boat wakes today add an erosive force not seen earlier. To counter erosion of ICIs a variety of measures are useful. Some measures are considered "hard" and deleterious to aquatic resources; examples are rip rap and bulkheads. Some measures are considered *"soft"* and neutral to advantageous to aquatic resources; examples include floating breakwaters, brush boxes, shrub plantings, root wads , etc. Each treatment is designed to address the hydraulic forces affecting ICI erosion. Breakwaters dampen (reduce height) and buffer (reduce force) of waves in the upper water column. Brush boxes and "curtains" act as breakwaters for lower water column currents. Groins deflect tidal currents. Willow wattling and coconut fiber rolls provide toe protection much like natural root wads would to provide toe protection. Collectively biotechnical measures can protect ICIs from further erosion for an interim period and in some local situations may catch and add sediments to the ICI. A suite of measures can be used in a coordinated fashion to protect the island and improve habitat values for target fish and wildlife species.

In the longer term, the basic purpose of the biotechnical treatments proposed for this project is to protect the shorelines of the ICIs from erosive forces for a sufficient duration to allow native emergent wetland and woody riparian vegetation to become established. Established vegetation will protect the shoreline from erosion in several ways: leaves and stalks slow currents and Iessen wave energy; elastic deformation of emergent plants dissipates wave energy; emergent plants lie flat with currents and waves providing cover for the soil; dense fibrous emergent root systems enclose and consolidate sediments, deep tangled roots of woody plants reinforce soil fiom the shear forces of currents and waves and restrain and filter soil particles; and woody

trunks provide soil arching restraint and buttressing (Gray and Leiser1982, Goldsmith and Bestmann 1992). Once the protected plantings become established, hydraulic roughness on a micro-scale will increase and effectively trap fines from suspended load. DCI's hydrogeomorphology consultant (Swanson Hydrology and Geomorphology) has experience modeling the dynamics that drive this process on ICIs.

c. Hypotheses being tested - The hypotheses being tested in this proposal respond to *two* project objectives: 1) to demonstrate that the erosion of the Delta's ICIs can be slowed, stopped or reversed using appropriately engineered biotechnical methods, and 2) to demonstrate that biotechnical erosion control methods can be successfully installed with positive effects on important/priority fish and wildlife. **TABLES 1 and 2** describe the hypotheses being tested in the project. The tables include monitoring parameters and data evaluation.

TABLE 1. Objective 1: To demonstrate that the erosion of the Delta's in-channel island can be slowed, stopped or reversed using appropriately engineered biotechnical methods.

Hypothesis	Monitoring Parameter	Data Evaluation
1A: Hydrodynamic energy can be dissipated by installing appropriate biotechnical methods along shores.	Empirical observations and water/wave current measurements.	Visual and photographic documentation of wave or current dissipation on treated and untreated areas. Pre- and post- current measurements and evaluation of impact on surrounding areas.
1B: In-channel island substrate can be conserved and/or accreted using biotechnical methods.	Field mapping	Changes in elevation will be compared with adjacent untreated sites. ANOVA analysis to determine significance.
IC: Biotechnical methods offer stable, long-term protection against erosion.	Empirical observation	Visual documentation 6om fixed photopoints comparing treated and untreated areas over time.

TABLE 2. Objective 2: To demonstrate that biotechnical erosion control methods can be successfully installed with positive effects on important/priority fish and wildlife.

Hypothesis	Monitoring Parameter	Data Evaluation
2A: Habitat protected by bio-technical erosion control methods will benefit priority fish species.	Pre- and post- project fisheries monitoring will be performed using appropriate methods approved by regulatory agencies.	Seasonal census of priority fish populations associated 1) around the project islands and, 2) within the biotechnical structures and vegetation.
2B: Biotechnical methods will protect and possibly benefit terrestrial biota.	Pre- and post- project monitoring of selected terrestrial biota using appropriate methods.	Differences in percentages of native vegetative cover. ANOVA to determine significance.
2C: Vegetation establishment along island edges will be enhanced by biotechnical erosion control methods.	Vegetation succession: riverine emergent, riverine aquatic bed, shaded riverine aquatic habitat quantification and qualification.	Pre- and post- project analyses of vegetation populations.
2D: Non-native invasive plant or animal species will not benefit from the biotechnical erosion control methods.	Pre- and post- project monitoring of non-native invasive species.	Changed in non-native plant or animal species composition.

This project supports three specific Ecosystem Restoration Strategic Goals (numbered per CALFED's 2001 PSP):

Goal **1** – At **Risk** Species: The habitat being protected and enhanced by this proposal provides life history requirements for many at-risk, target species listed below. Historically, a much larger area of similar habitat supported healthy populations of these species.
Goal **2** – Ecosystem Processes and Biotic Communities: Protection and restoration of ICIs will be achieved using ecosystem process design principles including fluvial sediment transport models, wave energy analysis and, others. Little is known in the scientific community about building habitat projects that favor native species; however, this project will provide initial insight into this issue through extensive monitoring.
Goal **4** – Habitats: ICIs comprise most of the remaining undisturbed, functional tidal wetlands in the Delta. Protecting and restoring these habitat types is critical for biological resources that depend on them. Additionally, these ICIs provide added protection for adjacent flood control levees, recreation opportunities and aesthetics.

This proposal will produce results that touch on several scientific uncertainties identified in CALFED's PSP.

1. Natural Flow Regimes and Channel Dynamics: Altered hydrodynamics in the Delta's watershed have drastically changed sediment balances throughout the system. Dams and channel armoring deprive rivers of sediment, leaving unprotected substrate vulnerable to erosion. ICIs are threatened in this way. This proposal will demonstrate biologically-friendly erosion control methods for ICIs until the larger, hydrodynamic process issues of the Bay-Delta/tributaries can be resolved.
2. Importance of Delta for Salmon: While this proposal does not focus exclusively on salmon survival needs, shallow water habitat protection and enhancement will likely benefit young salmon migrating through the Delta. The fish sampling portion of the monitoring plan will address salmon and other target fish use of ICIs.
3. Non-native Invasive Species: We will be monitoring non-native invasive species that may become established or use the project sites. This information will be useful to CALFED for planning and implementing future Delta projects.
4. Shallow Water, Tidal and Freshwater Marsh Habitat: While this proposal will not result in substantial increases in acreage of these wetland habitat types, it will protect and possibly enhance existing, important shallow water, tidal and freshwater marsh habitat associated with ICIs. ICIs are a critical remnant of a vast network of tidally influenced wetlands. The rare attribute of ICIs is that they are not armored, cultivated or disturbed by human development.

d. Adaptive Management - This project is a demonstration project. DCI intends to demonstrate that biotechnical methods can be used in lieu of riprap or other "hard" surfaces to protect valuable tidal wetlands associated with ICIs in the Delta. DCI also intends to document and monitor the usage of the protected habitat and biotechnical structures by target fish, wildlife and plants. Lessons learned from this demonstration may be applied to other wetlands in the Delta where habitat resources are in need of protection. A key question to be addressed by this project is how do native and non-native fish respond to the treatments? There is much debate within CALFED on the value of shallow water habitat for various fish. Data from this project should add to the body of knowledge on this question. DCI is also anxious to demonstrate that the biotechnical erosion control methods can effectively pull sediment out of a sediment-lean

system. This principle has been successfully demonstrated using similar techniques in Georgiana Slough (Hart, 1999).

Institutional resistence to "hard" fixes and lack of technical information have contributed to an almost total lack of effort to protect and restore the hallmark plant community in the ecosystem – the tule marsh (bulrush). The proposed biotechnical measures are known to work elsewhere but have not been demonstrated in the Delta. Even with the best engineering, there is still some question about how the methods will perform in the Delta. That is the purpose of this proposal. The biotechnical installations are expected to last 15 years, long enough for vegetation establishment and sediment accretion to be occur. It is anticipated that once new vegetation is established, the protection will be self-sustaining for the most part. Within the sites we have purposely used a variety of treatments in close proximity so that we can compare their effectiveness. We are also employing the treatments across three delta channel islands of slightly differing types and subject to differing wave conditions to increase the utility of the information that will be learned.

e. Educational Objectives - not applicable

2. Proposed Scope of Work

a. Location and/or Geographic Boundaries of Project - Webb Tract Sites #1 & #3 are in Contra Costa County. Little Tinsley Island is in San Joaquin County. All project sites are in the Delta ecozone. Centroids: Webb Tract Site #1 – 38° 6' 6", 121° 37' 30"; Webb Tract Site #3 - 38° 2' 52", 121° 8' 54"; Little Tinsley Island -- 38" 2' 24", 121°29' 57". **FIGURES 1-5.**

b. Approach - The demonstration project consists of installing various biotechnical methods to control erosion and attenuate wave energy adjacent to three eroding ICIs in the Delta. The approach is a comparative demonstration project using several different types of promising biotechnical methods, and evaluating their potential to provide protection from wave and current forces. A minimum three year monitoring plan will evaluate the effectiveness of the biotechnical methods including biological benefits. The sites represent a wide range of field conditions focusing on both habitat and engineering considerations. A total of 2,159 linear feet of shoreline will be treated, protecting a total of 6.24 acres of ICI habitat.

FIGURES 6-11 display the orientation of the methods on each project site, the plan views and cross-sections. **TABLE 3** and **FIGURES 12-17** describe and illustrate the specifications of the biotechnical methods proposed for this project.

On Webb Tract Site #1, a 0.04-acre submerged shoal, floating breakwaters of planted log boxes, a subtidal peaked stone dike, and 5-gallon ballast buckets will be employed to reduce surface and sub-surface wave energy. On Webb Tract Site **#3,** a 1.26-acre peat island, stone groins, root wad structures, ***6***" and 5 gallon ballast buckets, and a floating breakwater will be employed to reduce surface and sub-surface waves and ballast buckets will be used to enhance shallow water fish habitat. On Little Tinsley Island, a 4.94-acre island largely resulting from a fill, floating breakwaters of planted log-boxes, fiber rolls, willow wattlings, root wads, ***6***" and 5-gallon ballast buckets, 20" brush boxes and planted fiber mats will be employed.

Criteria used in Objective 1 hypothesis testing will be physical dimensions, elevations, and sediment and hydrodynamic characterizations. Criteria used in Objective 2 hypothesis testing will be species identification, numbers present, time present, and, if appropriate, the condition of the animal or plants.

This project will generate reference site information for ICI protection Delta wide. This same reference site information can very likely be transferred to waterside berms of levees supporting holding intertidal vegetation.

c. Monitoring and Assessment Plans - The baseline physical and biological measurements will be replicated in the post-construction phase for at least three years. Direct comparisons of post-project data to pre-project data will be made. Definitive trends in pre-project levels of erosiorddegradation are not available thus a comparison of trends is not possible. Immediately following construction, as assessment will be made to verify that the project was built as designed.

TABLES 1 and 2 outline the preliminary monitoring plan, including testable hypotheses, monitoring parameters and data evaluation techniques. Detail of the hydrologic monitoring plan is found in **APPENDIX C.** Additional detail for the biological monitoring element will be added to this monitoring plan when funded for construction.

d. Data Handling and Storage – All physical and biological data collection will be done by appropriate professional staff as contracted by DCI. Hard copy data will be analyzed and evaluated to determine their support of the proposal's operating hypotheses. Results of the analysis will be posted to the Delta Protection Commission's website for easy access by Delta landowners. The website's URL is http://www.delta.ca.gov

e. Expected Products/Outcomes - Annual reports will be made available upon request. Photographic records will be compiled on an infrequent but regular basis. Program managers and technical people involved in the planning, construction, and monitoring/evaluation of this project will be encouraged to give presentations and prepare papers as needed. Tours of the sites will be offered to parties hoping to implement similar projects elsewhere in the Delta. Information will be made accessible to the public via the Delta Protection Commission's website.

f. Work Schedule - All permits, agreements and approvals for this project have been obtained except a land lease from the State Lands Commission, which they have indicated will be granted at their next Commission meeting. Project construction will begin in September 2001 and end in November 2001. Project monitoring will commence immediately in November 2001 and continue through June 2005. Construction maintenance will begin, as necessary, in July 2002 and continue through June 2005. DCI will continue to meet and prepare all necessary CALFED status reports through June 2005. For specific **tasks,** deliverables and phases of the project ***see*** **APPENDIX D.**

If CALFED funding constraints suggest partial funding for this project, then DCI recommends deleting Webb Tract Site #1 from the proposal. This would reduce the cost of the project by $355,979. Funding needed for the remaining project components would be $681,171. See **TABLE 1 in APPENDIX B** for a cost analysis for each of the project components.

g. **Feasibility –** The various biotechnical structural treatments prescribed in this proposal have been demonstrated to be feasible and appropriate in many previous applications: (1.) Examples where coir rolls and blankets and brush boxes have proved cost-effective and successful in the long term (over five years) for stabilizing eroding shorelines include (a.) the Petaluma River, a brackish tidal slough in Petaluma, CA (Leiser et al. 1994, Nichols et. al. 1995, Nichols and Leiser 1998), (b.) Lake Pavel, a freshwater drinking water impoundment in Berlin, Germany (Goldsmith and Bestmann, 1992) (c.) Sadenbeck Reservoir, an irrigation water impoundment east of Berlin, Germany (Goldsmith 1991), and several streams, detention ponds, and estuaries in northeastern United States (Goldsmith 1991); (2.) Floating breakwaters similar to those proposed here have successfully dampened wave action on several reservoirs managed by the Army Corps of Engineers (Allen et. al.1984, Allen and Klimas 1986); **(3.)** root wads of dead trees have proven feasible and very cost-effective in protecting shorelines from wave erosion along several reservoir and stream shorelines in the Midwest and West Coast (Roseboom and White 1990, Johnson and Stypula 1993, Northcutt 1994), the value of rootwads as habitat for salmonids and other fish is well documented (Flosi et.al. 1998, Rosgen and Fittante 1986); (4.) willow wattliig and live stakes or cuttings have been used since the 1930's in hundreds **of** successful applications (Gray and Leiser 1982, Northcutt 1994); (5.) brush curtains and ballast buckets have been used successfully to stabilize shorelines in Georgiana Slough and the American River near CSU, Sacramento (J. **Hart,** pers.com. 2000); and ***(6.)*** a peaked stone dike with dimensions and materials similar to those proposed here was successfully incorporated with bioengineering treatments by the Corps **of** Engineers Waterways Experiment Station at Lake Eufaula, Oklahoma in 1991 (Fischenich and Allen 1997).

Alternatives Considered

The basic criteria for this project, to demonstrate the effectiveness of fish and wildlife friendly, biotechnical erosion control approaches to stabilize the Delta ICIs, automatically eliminated many traditional approaches that are not biotechnical such as rip-rap and sheet pile walls. Certain purely biotechnical treatments were eliminated from consideration because they would not stand up to the high levels of prevailing erosive wave and current forces. These include plantings and seeding with no protection, and use of less durable materials (compared with coconut fiber) for protective rolls and matting such as jute, straw, burlap, and excelsior. Biotechnical treatments intended for slopes and upper shorelines such as plant rolls, crib streambank "lunker" structures, plant revetments, willow layering, and reed-trench terracing were rejected because upper banks **of** the ICIs **are** either lacking (as in Webb Tract #1) **or** are stable and well vegetated (as in Little Tisley). The selected treatments **are** intended as breakwaters and structures for stabilizing undercut shorelines at the lower tidal levels. Virtually every **known** biotechnical treatment for lower shoreline or offshore applications is being used for this demonstration project with the following exceptions: single log booms as breakwaters were rejected because they would float too low in the water to be effective; and floating pre-manufactured modular islands were rejected as too expensive compared with other equally effective treatments.

Environmental Compliance

This project requires compliance with CEQA and NEPA, Sections 404 and 401 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, State and Federal Endangered Species Acts, DFG's Streambed Alteration Agreement, State Lands Commission's Public Trust Doctrine, as well as several other permits and agreements. A Mitigated Negative Declaration was obtained from the State Clearinghouse on September 30, 1999. A Letter **of** Permission was

obtained from the U.S. Army Corps of Engineers on November 9,1999. This permit required endangered species consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service, and water quality certification from the Central Valley Regional Water Quality Control Board. DCI is in the process of amending its Streambed Alteration Agreement for the project sites. The State Lands Commission has expressed their intention to grant a lease for project-work at their next Commission meeting. **APPENDIX A** contains evidence of the above environmental clearances.

Written landowner permission to proceed with the project **has** been obtained from DFG for the Webb Tract sites and from the Noble Yacht Club for Little Tinsley Island **(APPENDIX E).**

D. Applicability to CALFED ERP Goals and Implementation Plan

1. ERP Goals

CALFED recognizes the biological value of these ICIs in its Ecosystem Restoration Program (ERP) and its Strategic Plan for Ecosystem Restoration. One of the habitat goals of the ERP is to "protect existing mid-channel islands and shoals in order to provide high-quality habitat for fish and wildlife dependent on the Bay-Delta".

This project supports three specific Ecosystem Restoration Strategic Goals (numbered per CALFED's 2001 PSP):

Goal 1 – At Risk Species: The habitat being protected and enhanced by this proposal provides life history requirements for many at-risk, target species listed below. Historically, a much larger area of similar habitat supported healthy populations of these species.
Goal 2 – Ecosystem Processes and Biotic Communities: Protection and restoration of ICIs will be achieved using ecosystem process design principles including fluvial sediment transport models, wave energy analysis and others. Little is known in the scientific community about building habitat projects that favor native species; however, this project will provide initial insight into this issue through extensive monitoring.
Goal 4 – Habitats: ICIs comprise most of the remaining undisturbed, functional tidal wetlands in the Delta. Protecting and restoring these habitat types is critical for biological resources that depend on them. Additionally, these ICIs provide added protection for adjacent flood control levees, recreation opportunities and aesthetics.

The Strategic Plan identifies many endangered and target species that will benefit from this action including migrating and rearing Chinook salmon (fall, winter and spring runs), Delta smelt, longfin smelt, steelhead, striped bass, green sturgeon, anadromous lampreys and Sacramento splittail. ICI preservation will also benefit several other priority animal species including the western pond turtle, California black rail and the giant garter snake. The upper tidal zone of many of the ICIs supports Suisun marsh aster, Mason's lilaeopsis and rose mallow.

This project will generate site specific information about the erosion control potential of biotechnical methods for protecting ICIs thereby preserving habitat for CALFED target species. Results from the monitoring plan may be used to develop models for erosion control implementation at other sensitive habitat sites in the Delta and elsewhere. The ERP's long-term restoration target for mid-channel islands and shoals is to restore and maintain 50-200 acres of high quality habitat.

2. Relationship to Other Ecosystem Restoration Projects

This proposal compliments the Habitat Enhancement component of the Department of Water Resources' Delta Levees Flood Protection Program (AB360). AB 360 is looking for ways to improve habitat quality on levees and associated structures (ICIs) as a means of providing a programmatic improvement in Delta habitat quality.

ICI protection and enhancement supports CVPIA's goals to contribute to the State of California's interim and long-term efforts to protect the San Francisco Bay/Sacramento-San Joaquin Delta Estuary.

3. Requests for Next Phase Funding

In December of 1997, CALFED funded DCI $270,000 to design the proposed demonstration project and provide environmental documentation and permits for the work. DCI has successfully completed this work (Phase I). ***DCZ is now requesting $1,037,150 to construct Phase ZZ of theproject, which willprotect and enhance ICIs.*** A *summary* of the existing project's status is found in **APPENDIX B.**

DCI has obtained the following environmental clearances for project construction: 1) a Mitigated Negative Declaration from the State Clearinghouse on September 30, 1999; *2)* a Letter of Permission from the U.S. Army Corps of Engineers on November 9,1999 (this Section 404/10 permit required endangered species consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service, water quality certification from the Central Valley Regional Water Quality Control Board, and CALTRANS clearance); 3) intent from the State Lands Commission to approve a land lease at their next Commission meeting. DCI is in the process of amending its DFG Streambed Alteration Agreement for the project. See **APPENDIX A.**

Written permission to proceed with the project has been obtained from the landowners: DFG for the Webb Tract sites; the Noble Yacht Club for Little Tinsley Island **(APPENDIX E).**

DCI obtained a commitment of $368,350 in matching funds from the Department of Water Resources' Delta Flood Protection Act Program to install project features on one of the three project sites; Webb Tract Site #3. Webb Tract Site #3 provides important wave energy protection for the flood control levee surrounding Webb Tract.

4. Previous Recipients of CALFED funding

CALFED Project 97-Nl l: Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands. See D.3. above for status and accomplishments.

5. System-Wide Ecosystem Benefits

This proposal to protect and enhance ICIs will support CALFED's cumulative effort to restore target fisheries populations residing or passing through the Delta. ICI protection also melds with the ERP's Levee System Integrity Program. ICIs provide significant wave energy protection to adjacent flood control levees.

E. Oualifications

The Delta In-Channel Island Workgroup (DCI) has, with a competitive Request for Qualifications bidding process, hired a team of engineers, hydrologists, geomorphologists and biologists to design the demonstration project using appropriately engineered, biotechnical methods for erosion control and sediment accretion.

GILBERT COSIO, JR. (Murray, **Burns & Kienlen):** Mr. Cosio is a principal engineer and vice president of Murray, Bums & Kienlen. He is a registered professional engineer (civil). He began his 18-year career at Bechtel Power Corporation as a civil/structural design engineer in charge of concrete and steel design, and has been an employee of Murray, Bums & Kienlen since 1984 at which time he began working in the Delta. Mr. Cosio has experience in flood control, hydrology, hydraulics, water resource planning, drainage water supply, surveying and levee maintenance. Mr. Cosio is currently principal-in-charge of all Delta levee reclamation district work for Murray, Bums & Kienlen. Mr. Cosio coordinates levee inspections, levee maintenance and rehabilitation projects, competitive bid plans and specification preparation, and contract administration for Delta reclamation districts. He also oversees maintenance planning, funding application and claims, regulatory coordination, environmental assessments, CEQA documentation, and reports and presentation s to respective reclamation district boards of trustees.

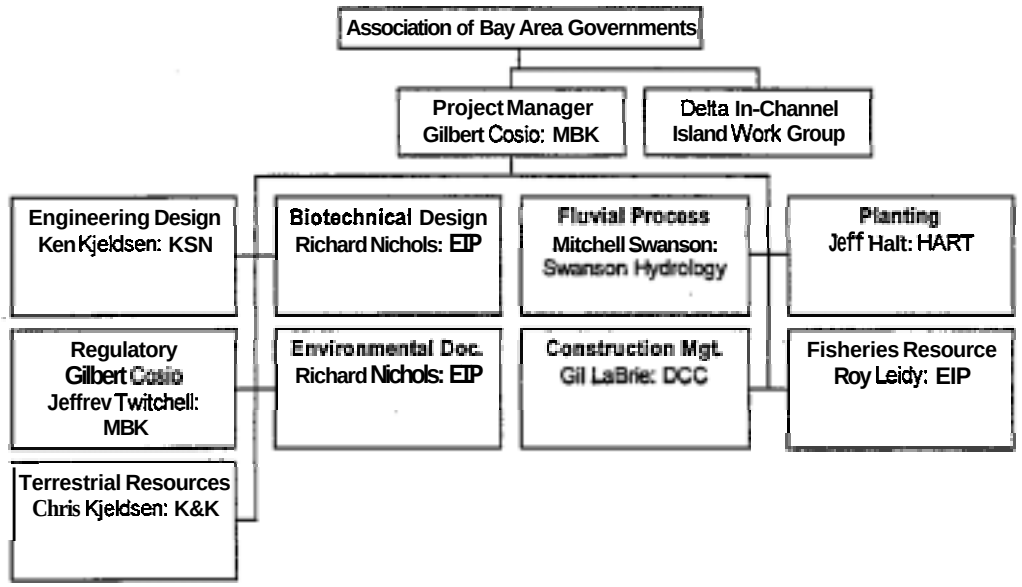
KENNETH L. KJELDSEN (Kjeldsen, Sinnock & Neudeck): Mr. Kjeldsen has over 30 **years** experience in **the** field of civil engineering with emphasis in the planning, design and construction of municipal, public works and water resource related projects. As a principal in the firm of Kjeldsen, Sinnock & Neudeck, Inc., **Mr.** Kjeldsen is responsible for managing the projects undertaken by the firm, coordinating with the client and consultants, and reviewing all technical calculations and design decisions. Mr. Kjeldsen's previous assignments have provided him the background and experience to undertake all phases of project development from initial planning through operation and maintenance of the completed project.

RICHARD NICHOLS (EIP Associates): Mr. Nichols serves as Director of Natural Resources for EIP's San Francisco office. He has 20 years of experience as a professional biologist and range manager, including seven years of federal agency service. Mr. Nichols holds a MS. in Range Management from **the** University of California, Davis and a **B.A. in** Biological Sciences from California State University, Chico. His responsibilities include preparation of environmental analyses for infrastructure and private development plans and projects. He is especially skilled in biotechnical erosion control, revegetation, and stabilization of disturbed sites on steep slopes. As an example, **Mr.** Nichols provided state of the **art** biotechnical erosion control planning for difficult sites on the Petaluma River Habitat Restoration Project, **the** Priest Reservoir Diversion Channel Stormwater Pollution Prevention Plan Project, **the** Lake Piombo Mining Reclamation Project, the North Airport Pipeline Restoration Project, and **the** Tuolomne Meadows Sewer Replacement SWPPP. All of those projects have been successfully implemented using two or more innovative biotechnical methodologies including use of coconut fiber rolls and blankets, brush boxes, contour wattling, live willow staking, brush matting, willow check dams, and native plant plugging and seeding. He also conducts wetland mitigation and restoration planning and implementation, mining reclamation, endangered species investigations, wetland delineation and assessment, and mitigation monitoring. Mr. Nichols conducts field inventories, literature reviews, research, and monitoring to assess impacts from development projects and formulates/evaluates feasible and successful mitigation measures.

JEFFREY A. HART, PH.D. (Habitat Assessment & Restoration Team, Inc.): Dr. **Hart,** President of the Habitat Assessment and Restoration Team, Inc. (H.A.R.T) will serve as the restoration contractor. He has had more than 30 years field biology experience on several continents with the last ten years in the Sacramento area. He is a recognized expert in the areas of restoration ecology, resource analysis, and conservation. He has had considerable experience and success in designing and/or implementing many local restoration projects (e.g., Stone Lakes National Wildlife Refuge, Grizzley Slough, Decker Island), bioengineering projects (e.g., Dry Creek, Lower American River), and riparian and wetland resource studies (e.g., Cosumnes River, Lower American River). His clients include mostly government agencies and non-profit organizations such as the Sacramento Area Flood Control Agency, Sacramento County Water Resources Division, Ducks Unlimited, California Department of Water Resources, and The Nature Conservancy. Located in the Delta on Grand Island, H.A.R.T.'s specialty is the restoration of river and Delta wetland and riparian environments.

MITCHELL SWANSON (Mitchell Swanson Hydrology and Geomorphology): Mr. Swanson has over eighteen years of consulting experience in hydrology, hydraulic studies, geologic hazards, and geomorphology related to restoration and resource management in rivers, streams, coastal estuaries, and wetlands. This experience includes the development, management and completion of comprehensive technical and planning studies for a full range of private and public sector clients. Mr. Swanson specializes in the development of technically and environmentally sound management and restoration plans for rivers, estuaries and watersheds. These studies often involve the coordination of many disciplines including biological sciences, hydraulic engineering, land use planning, economics, landscape architecture and environmental planning. Mr. Swanson's technical expertise includes historical geomorphic and hydrologic studies for geologic hazards assessments and in determining the causes and effects of human modification on sediment transport measurement, geomorphic mapping and surveying in rivers, watersheds and estuaries. Mr. Swanson has conducted hydraulic and hydrologic analyses using the HEC-RAS, HEC-6 and HEC-I computer simulation programs.

Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands



F. Cost (Estimated Budget)

1. Budget *(See* TABLE **4)**

Year 1

Task **1.** Organizational

Subtask a. **Administration/Technical** Support

1. Project Coordinator - Project Coordinator will assist with organizing meetings; writing quarterly/final reports, and decision memoranda: assist with preparation of presentations to CALFED and other appropriate audiences on the progress **of** the project; and provide oversight of construction contractors/consultants, facilitate concerns between work group and contractors.

2. Work Group Support - As an in-kind service, DCI members will develop and distribute meeting agendas, materials, summaries, organize meetings and communicate **as** necessary by phone, email, mail to provide effective products, implement public outreach program.

3. Accounting/Contract Management - SFEP/ABAG staff will provide accounting support and contract management oversight, including monthly accounting statements, contract negotiation with consultants, draft/final contracts, legal consultation, and quarterly/final reports. Overhead fee includes general office requirements, **43 %** of personnel costs for general overhead and system support. Positions include: accountants (hourly rate **$30-$50/hr);** support staff ($25-$35/hr); legal counsel (hourly rate $90/hr); program manager ($60/hr)

Subtask **b.** Construction Administration

1. Final Design/Specs - Consultants will provide final biotechnical designs. Consultants include: Murray, **Burns** & Kienlen (MBK); DCC Engineering; Kjeldsen/Sinnock/ Neudeck; EIP Associates; Kjeldsen and Kjeldsen; H.A.R.T. Assoc.; Mitchell Swanson; Andrew Leiser.

2. Design Inspection - EIP Assoc. consultants will oversee installation of biotechnical designs for all **three** islands, this includes regular inspections on site **to** make sure that designs **are** implemented on the ground with materials **as** specified in the drawings. Consultants also will determine if any changes in design and installation are needed due to conditions on site.

3. Construction Management - MBK consultants will be the principal subcontractor and will, provide administrative duties **for** all construction **tasks** and installation **in** the field, including necessary coordination/communication among all other subs **for** Webb # 1 **and Little Tinsley.**

4. Construction Inspection - During construction, MBK consultants will inspect Webb # 1 and Little Tinsley for correct installation of the materials **as** specified in the design.

5. Subcontract Administration - MBK consultants will provide subcontract administration for all three islands, including negotiating subcontracts, assigning tasks **as** agreed, processing and submitting invoices to ABAG/SFEP with reports of work completed.

Task **2.** Construction

Subtask a. Webb Tract # **1** Construction - Islands 1 and 3 **are** small remnant **islands.** Funding **for** construction on Webb Tract # 3 is being provided by the **State's** Levee Flood Protection Program **($370,000).** Biotechniques to be used on Webb Tract # 1 include floating breakwaters of planted log-boxes, anchored root wads, planted ballast buckets and planted coconut fiber mattresses. Consultants DCC Engineering, Kjeldsen/Sinnock/Neudeck, Kjeldsen and Kjeldsen and H.A.R.T. Assoc. will construct biotechnical methods on **all** islands.

Subtask b. Little Tinsley Island - Some **of** the biotecbniques to be used on Little Tinsley include: floating breakwaters **of** planted log-boxes, stacked 20-in. diameter fiber **rolls, 10-12-in.** live willow wattling **rolls,** anchored root wads, planted ballast buckets, 20-in. high brush boxes, stacked 12-in. rock **rolls,** and planted coconut fiber mattresses.

Task **3.** Monitoring

Subtask a. Final Monitoring **Plans** - Final revisions will be made to the monitoring plan's objectives, testable hypotheses, monitoring parameters and data evaluation techniques.

Subtask b. Biological Monitoring - During the year of construction, monitoring will begin on all three islands. Objectives are 1) erosion of ICIs can be slowed, stopped or reversed using biotechnical methods and 2) biotechnical erosion control methods can be successfully installed with positive effects on important/priority fish and wildlife while minimizing impact to existing ecological values on site.

Task 1. Organizational

Subtask a. Administration/Technical Support

1. Project Coordinator - Same assistance as in Year 1.

2. Work Group Support - Same assistance as in Year 1 (in-kind service).

3. Accounting/Contract Management - Same assistance as in Year 1.

Task 2. Construction Maintenance

Biotechnical erosion control methods will need to be maintained on all three islands.

Task 3. Biological Monitoring

Biological monitoring of all three islands will continue as in year one.

Task 1. Organizational

Subtask a. Administration/Technical Support

1. Work Group Support - DCI members will provide same assistance as in Years 1 and 2 as an in-kind service.

Task 2. Construction/Maintenance

Subtask a. Maintenance Contingency - Biotechnical erosion control methods will need to **be** maintained on all three islands. These funds provide regular inspection and repair.

Task 3. Biological Monitoring

Biological monitoring of all three islands will continue as in years 1 and 2.

Year 4

Task 1. Organizational

Subtask a. Administration/Technical Support

1. Work Group Support - DCI members will continue to provide the same assistance as in Years 1, 2 and **3** as an in-kind service.

Task 2. Construction Maintenance

Biotechnical erosion control methods will need to be maintained on all three islands. These funds provide regular inspection and repair.

Task 3. Biological Monitoring

Biological monitoring of all three islands will continue as in years 1,2 and **3.**

2. Cost-Sharing

The DCI has secured funds from the Levee Flood Protection Program for construction on Webb Tract # **3** in the amount of $368,350. The DCI partners will provide in-kind services in the amount of $25,925 for developing/distributing meeting materials, attendance at 12 meetings (4 mtgs/year for **3** years), reviewing and commenting on products (final designs/monitoring reports). Additionally, the SF Bay Regional Water Board will provide administrative support in the amount of $24,000 ($1000/mo **for** 2 years).
Total estimated amount of DCI cost-sharing is $457,275.

G. Local Involvement

Local Outreach and Local Involvement Plan. The Delta In-Channel Islands Work Group (DCI) was created as a regional group to implement the goals of the San Francisco Estuary Project's Comprehensive Conservation and Management Plan (June 1993). The DCI includes representatives of local, state and federal agencies, nonprofit groups, land owners, and special districts in the Delta. The project has been conceived, debated, and designed as a collaborative project with participation of many groups and individuals reflecting many scientific and policy areas.

Process and Timing for Notification and Involvement of the General Public: The DCI mailing list includes approximately 350 persons; they receive notice of each DCI and minutes of each meeting outlining actions of DCI. All contacted parties are in support of the project. There is no known opposition to the proposed project. DCI has sent press releases to a list of approximately 25 printed, radio, and television contacts to disseminate information about the project to the general public throughout the Bay Area. A site visit via boats is planned for the start of work for Phase II for regulatory agencies, dignitaries, and members of the press.

Process and Timing for Notification of Adjacent Property Owners: The Phase I project included notification of the adjacent landowners and the general public. The Phase II project will continue early and complete communication and disclosure of the proposed project. Adjacent property owners will be notified by a mail list developed from lists of legal property owners, and will include landowners; Reclamation Districts; Port of Stockton; and tenants (to the extent known). The Webb Tract Reclamation District and landowners are aware of the proposed project and in support due to the beneficial aspects the islands provide protecting the District's levees from erosive forces. There are no known adverse third party impacts.

Process and Timing for Coordination with Local Government: Local governments have been notified of the grant application through a letter and copy of the grant application to the Planning Directors and Boards of Supervisors of Contra Costa and San Joaquin Counties. The Delta Protection Commission was formally notified of the grant application through a letter and copy of the grant to the Executive Director **(Section J - Application).**

The Process and Timing for Coordination with Watershed Groups or Local Conservancies: Notification will be sent to the Audubon Society Local Chapters and DeltaKeeper; no other watershed groups or local conservancies have been identified. There is no known opposition to the proposed project.

Permission for Access: The islands around Webb Tract are owned by the Department of Fish and Game. Little Tinsley Island is owned by the Noble Yacht Group. Permission from the landowners to proceed with the project is found in **APPENDIX E.**

H. Compliance with Standard Terms and Conditions

ABAG acting as the San Francisco Estuary Project's fiscal agent can comply with all the terms and conditions described in the solicitation for proposals. All required federal and state forms are signed by ABAG Executive Director Eugene Leong, and are included in this proposal.

I. Literature Cited

Allen, H.H., Webb, J.W., and Shirley, S.D. 1984. Effects of fluctuating reservoir water levels on fisheries, wildlife, and vegetation; summary of a workshop, 24-26 February 1981. Miscellaneous Paper E-83-2, US Army Corps of Engineers Waterways Experiment Station, Vicksburg Miss.

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Goldsmith, W. and L. Bestmann. 1992. An overview of bioengineering for shore protection. ***Proc. Of*** *Conference XXII* ***International Erosion Control Association,*** Reno, NV.

Gray, D.H., and A.T. Leiser. 1982. ***Biotechnical Slope Protection and Erosion Control.*** Krieger Publishing Co, Malabar, FL. 271 pp.

Johnson, A.W. and J.M Stypula, Eds. 1993. *Guidelines for Bank Stabilization* ***Projects in the Riverine Environments of King County.*** King County Dept. of Public Works, Surface Water Management Division, Seattle, WA.

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J. Threshold Requirements for Applications made pursuant to the 2001 Proposal Solicitation Package

1. **Proposal Cover Sheet (on cover of proposal)**
2. **Environmental Compliance Checklist**
3. **Land Use Checklist**
4. **Local Notification Letters (5)**
5. **State and Federal Contract Forms**

Environmental Compliance Checklist

All applicants must fill out this Environmental Compliance Checklist. Applications must contain answers to the following questions to be responsive and to be considered for funding. ***Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.***

1. **Do** any of the actions included in the proposal require compliance with either the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), or both?

✓ YES **NO**

2. If yon answered yes to # **1,** identify the lead governmental agency for CEQA/NEPA compliance.

Department of Fish and Game
Lead Agency

3. If yon answered **no** to # **1,** explain why CEQAJNEPA compliance is not required for the actions in the proposal.

4. If CEQAJNEPA compliance is required, describe how the project will comply with either or both **of** these laws. **Describe where the project is in the compliance process and the expected date of completion.**

Negative Declaration (SCH#99092108) submitted to State Clearinghouse September 30, 1999; review period closed October 30, 1999.

5. Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?

✓ **YES** **NO**

If yes, the applicant must attach written permission for access from the relevant property owner(s). Failure to include written permission for access may result in disqualification of the proposal during the review process. Research and monitoring field projects for which specific field locations have not been identified will be required to provide access needs and permission for access with ***30*** days of notification ***of*** approval.

For Little Tinsley Island only.

6. Please indicate what permits or other approvals may be required for the activities contained in your proposal. Check all boxes that apply.

LOCAL		
Conditional use permit	—	
Variance	—	
Subdivision Map Act approval	—	
Grading permit	—	
General plan amendment	—	
Specific plan approval	—	
Rezone	—	
Williamson Act Contract cancellation	—	
Other _____ (please specify)		
None required	—	
STATE		
CESA Compliance	✓	(CDFG)
Streambed alteration permit	✓	(CDFG)
CWA § 401 certification	✓	(RWQCB)
Coastal development permit	—	(Coastal Commission/BCDC)
Reclamation Board approval	—	
Notification	✓	(DPC, BCDC)
Other State Lands (please specify) Commission		
Nonereqnired	—	
FEDERAL		
ESA Consultation	✓	**(USFWS)**
Rivers & Harbors Act permit	✓	(ACOE)
CWA § 404 permit	✓	(ACOE)
Other _____ (please specify)		
None required	—	

DPC =Delta Protection Commission
CWA =Clean Water Act
CESA =California Endangered Species Act
USFWS = U.S. Fish and Wildlife Service
ACOE = U.S. A m y Corps of Engineers

ESA = Endangered Species Act
CDFG = California Department of Fish and Game
RWQCB = Regional Water Quality Control Board
BCDC= Bay Conservation and Development Comm.

Land Use Checklist

All applicants must fill out this Land Use Checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered for funding. ***Failure** to **answer these** questions **and include them with the application will result in the** application being **considered nonresponsive and** not **considered** for funding.*

1. Do the actions in the proposal involve physical changes to the land (i.e. grading, planting vegetation, or breeching levees) or restrictions in land use (i.e. conservation easement or placement of land in a wildlife refuge)?

✓ YES _____ NO

2. If NO to # **1,** explain what type of actions are involved in the proposal (i.e., research only, planning only).

3. If YES to # **1,** what is the proposed land use change or restriction under the proposal?

No change to land use; only physical changes to the land

4. **If** YES to # **1,** is the land currently under a Williamson Act contract?

_____ YES ✓ NO

5. If YES to # **1,** answer the following:

Current land use — open space
Current zoning — SJ: AG-80 CC: OpenSpace
Current general plan designation' — SJ: openspace/resource conservation CC: open space

6. If YES **to #1,** is the land classified as Prime Farmland, Farmland of Statewide Importance or Unique Farmland **on** the Department of Conservation Important Farmland Maps?

_____ YES ✓ NO _____ DON'T KNOW

7. If YES to # **1,** how many acres of land will be subject to physical change or land use restrictions under the proposal?

6.24 acres

8. If YES to # **1,** is the property currently being commercially farmed or grazed?

_____ YES NO

9. If YES to #8, what are the number of employees/acre_____
the total number of employees _____

10. Will the applicant acquire any interest in land under the proposal (fee title **or** a conservation easement)?

_____ **YES** ✓ **NO**

11. What entity/organization will hold the interest?_____

12. If **YES** ***to*** # **10,** answer the following:

Total number of acres to be acquired under proposal _____
Number **of** acres to he acquired in fee _____
Number of acres to be subject to conservation easement _____

13. For all proposals involving physical changes to the land **or** restriction in land **use,** describe what entity **or** organization will:

manage the property — Department of Fish and Game

provide operations and maintenance services — Department of Fish and Game

conduct monitoring — Consultant

14. For land acquisitions (fee title **or** easements), will existing water rights also he acquired? NA

_____ **YES** _____ **NO**

15. Does the applicant propose any modifications to the water right **or** change in the delivery **of** the water?

_____ **YES** X **NO**

16. **If YES** to # ***15,*** describe_____

DELTA IN-CHANNEL ISLANDS WORK GROUP
Kent Nelson, Project Manager
C/o Department of Water Resources
3251 S Street, Sacramento, CA 95816

May 15,2000

Dennis Barry, Community Development Director
Contra Costa County Community Development Department
651 Pine Street, 4th Floor-North Wing
Martinez, CA 94533

Subject: Notification of Application for CALFED Funds for a Project Located within the Jurisdiction of Contra Costa County

Dear Mr. Barry:

Enclosed for your information is a copy of the proposal of the Delta In-Channel Islands Work Group for Phase II of a pilot project to develop and evaluate techniques to protect and enhance Delta in-channel islands from erosion. The application will be filed by the Association of Bay Area Governments (ABAG). ABAG serves as the contracting agency on behalf of the Delta In-Channel Islands Work Group.

The proposed project will fund the installation and evaluation of a variety of "cutting edge" techniques, designed by an outstanding team of scientists and engineers who have a thorough understanding of the Delta and its natural environment. The project will include work on three small islands around Webb Tract, in Contra Costa County, and on Little Tinsley Island in the Deep Water Ship Channel in San Joaquin County.

We look forward to the funding of Phase II, the construction and monitoring phase, of this exciting project and will keep the County informed as work progresses.

Sincerely,

Kent Nelson
Project Manager

DELTA IN-CHANNEL ISLANDS WORK GROUP
Kent Nelson, Project Manager
C/o Department of Water Resources
3251 S Street, Sacramento, CA 95816

May 15, 2000

Clerk of the Board of Supervisors
Contra Costa County
651 Pine Street, Room 106
Martinez, CA **94533**

Subject: Notification of Application for CALFED Funds for a Project Located within the Jurisdiction of Contra Costa County

Honorable Members of the Board:

Enclosed for your information is a copy of the proposal of the Delta In-Channel Islands Work Group for Phase II of a pilot project to develop and evaluate techniques to protect and enhance Delta in-channel islands from erosion. The application will be filed by the Association of Bay Area Governments (ABAG). ABAG serves as the contracting agency on behalf of the Delta In-Channel Islands Work Group.

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We look forward to the funding of Phase 11, the construction and monitoring phase, of this exciting project and will keep the Board of Supervisors informed as work progresses.

Sincerely,

Kent Nelson
Project Manager

DELTA IN-CHANNEL ISLANDS WORK GROUP
Kent Nelson, Project Manager
C/o Department of Water Resources
3251 S Street, Sacramento, CA 95816

May 15, 2000

Margit Aramburu, Executive Director
Delta Protection Commission
P.O. Box 530
Walnut Grove, CA 95690

Subject: Notification of Application for CALFED Funds for a Project Located within the Jurisdiction of the Delta Protection Commission

Dear Ms. Aramburu:

Enclosed for your information is a copy of the proposal of the Delta In-Channel Islands Work Group for Phase II of a pilot project to develop and evaluate techniques to protect and enhance Delta in-channel islands from erosion. The application will be filed by the Association of Bay Area Governments (ABAG). ABAG serves as the contracting agency on behalf of the Delta In-Channel Islands Work Group.

The proposed project will fund the installation and evaluation of a variety of "cutting edge" techniques, designed by an outstanding team of scientists and engineers who have a thorough understanding of the Delta and its natural environment. The project will include work on three small islands around Webb Tract, in Contra Costa County, and on Little Tinsley Island in the Deep Water Ship Channel in San Joaquin County.

We look forward to the funding of Phase 11, the construction and monitoring phase, of this exciting project and will keep the County informed as work progresses.

Sincerely,

Kent Nelson
Project Manager

DELTA IN-CHANNEL ISLANDS WORK GROUP
Kent Nelson, Project Manager
C/o Department of Water Resources
3251 S Street, Sacramento, CA 95816

May 15, 2000

Ben Hulse, Director
Community Development Department
1810 E. Hazelton Avenue
Stockton, CA 95205

Subject: Notification of Application for CALFED Funds for a Project Located within the Jurisdiction of San Joaquin County

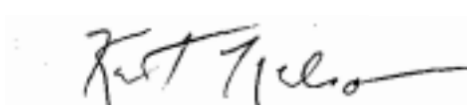
Dear Mr. Hulse:

Enclosed for your information is a copy of the proposal of the Delta In-Channel Islands Work Group for Phase II of a pilot project to develop and evaluate techniques to protect and enhance Delta in-channel islands from erosion. The application will be filed by the Association of Bay Area Governments (ABAG). ABAG serves as the contracting agency on behalf of the Delta In-Channel Islands Work Group.

The proposed project will fund the installation and evaluation of a variety of "cutting edge" techniques, designed by an outstanding team of scientists and engineers who have a thorough understanding of the Delta and its natural environment. The project will include work on three small islands around Webb Tract, in Contra Costa County, and on Little Tinsley Island in the Deep Water Ship Channel in San Joaquin County.

We look forward to the funding of Phase II, the construction and monitoring phase, of this exciting project and will keep the County informed as work progresses.

Sincerely,



Kent Nelson
Project Manager

DELTA IN-CHANNEL ISLANDS WORK GROUP
Kent Nelson, Project Manager
C/o Department of Water Resources
3251 S Street, Sacramento, CA 95816

May 15, 2000

Clerk of the Board of Supervisors
San Joaquin County
222 E. Weber Avenue, Room 701
Stockton, CA 95292

Subject: Notification of Application for CALFED Funds for a Project Located within the Jurisdiction of San Joaquin County

Honorable Members of the Board:

Enclosed for your information is a copy of the proposal of the Delta In-Channel Islands Work Group for Phase II of a pilot project to develop and evaluate techniques to protect and enhance Delta in-channel islands from erosion. The application will be filed by the Association of Bay Area Governments (ABAG). ABAG serves as the contracting agency on behalf of the Delta In-Channel Islands Work Group.

The proposed project will fund the installation and evaluation of a variety of "cutting edge" techniques, designed by an outstanding team of scientists and,engineers who have a thorough understanding of the Delta and its natural environment. The project will include work on three small islands around Webb Tract, in Contra Costa County, and on Little Tinsley Island in the Deep Water Ship Channel in San Joaquin County.

We look forward to the funding of Phase II, the construction and monitoring phase, of this exciting project and will keep the Board of Supervisors informed as work progresses.

Sincerely,

Kent Nelson
Project Manager

APPLICATION FOR FEDERAL ASSISTANCE

OMB Approval No. 0348-0043

2. DATE SUBMITTED	Applicant Identifier
3. DATE RECEIVED BY STATE	State Application Identifier
4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier

1. TYPE OF SUBMISSION:

Application: [X] Construction [ ] Non-Construction

Preapplication: [ ] Construction [ ] Non-Construction

5. APPLICANT INFORMATION

Legal Name: Association of Bay Area Governments

Organizational Unit: San Francisco Estuary Project

Address (give city, county, State, and zip code): P.O. Box 2050, Oakland, CA 94604-2050

Name and telephone number of person to be contacted on matters involving this application (give area code): Eugene Leong, Executive Director, 510-464-7910

6. EMPLOYER IDENTIFICATION NUMBER (EIN): 94 - 2832478

7. TYPE OF APPLICANT: (enter appropriate letter in box) N

A. State; B. County; C. Municipal; D. Township; E. Interstate; F. Intermunicipal; G. Special District; H. Independent School Dist.; I. State Controlled Institution of Higher Learning; J. Private University; K. Indian Tribe; L. Individual; M. Profit Organization; N. Other (Specify) Joint Powers Agency

8. TYPE OF APPLICATION

[X] New [ ] Continuation [ ] Revision

If Revision, enter appropriate letter(s) in box(es) [ ] [ ]

A. Increase Award; B. Decrease Award; C. Increase Duration; D. Decrease Duration; Other (specify):

9. NAME OF FEDERAL AGENCY:

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: XX - XXX

TITLE:

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:

Phase 11: Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands (Construction and Monitoring)

12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.): Contra Costa and San Joaquin Counties

13. PROPOSED PROJECT

Start Date: 7/1/01 Ending Date: 6/30/05

14. CONGRESSIONAL DISTRICTS OF

a. Applicant: B. Lee

b. Project: Tauscher/Pombo

15. ESTIMATED FUNDING:

a. Federal	$ 1,037,150 00
b. Applicant	$ 25,925 00
c. State	$ 368,350 00
d. Local	$ 00
e. Other Delta Channel Island Workgroup	$ 63,000 00
f. Program Income	$ 00
g. TOTAL	$ 1,494,425 00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON: DATE _____

b. No. [ ] PROGRAM IS NOT COVERED BY E. 0.12372 [ ] OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?

[ ] Yes If "Yes," attach an explanation. [X] No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.

a. Type Name of Authorized Representative	b. Title	c. Telephme Number
Eugene Y. Leong	Executive Director	510-464-7910

d. Signature of Authorized Representative: Eugene Y. Leong

e. Date Signed: 5/3/00

Previous Edition Usable
Authorized for Local Reproduction

Standard Form 424 (Rev. 7-97)
Prescribed by OMB Circular A-102

INSTRUCTIONS FOR THE SF-424

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

This is a standard form used by applicants as a required facesheet for preapplications and applications submitted for Federal assistance. It will be used by Federal agencies to obtain applicant certification that States which have established a review and comment procedure in response to Executive Order 12372 and have selected the program to be included in their process, have been given an opportunity to review the applicant's submission.

Item:	Entry:
1.	Self-explanatory.
2.	Date application submitted to Federal agency (or State if applicable) and applicant's control number (if applicable).
3.	State use only (if applicable).
4.	If this application is to continue or revise an existing award, enter present Federal identifier number. If for a new project, leave blank.
5.	Legal name of applicant, name of primary organizational unit which will undertake the assistance activity, complete address of the applicant, and name and telephone number of the person to contact on matters related to this application.
6.	Enter Employer Identification Number (EIN) as assigned by the Internal Revenue Service.
7.	Enter the appropriate letter in the space provided.
8.	Check appropriate box and enter appropriate letter(s) in the space(s) provided: -- "New" means a new assistance award. -- "Continuation" means an extension for an additional funding/budget period for a project with a projected completion date. -- "Revision" means any change in the Federal Government's financial obligation or contingent liability from an existing obligation.
9.	Name of Federal agency from which assistance is being requested with this application.
10.	Use the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested.
11.	Enter a brief descriptive title of the project. If more than one program is involved, you should append an explanation on a separate sheet. If appropriate (e.g., construction or real property projects), attach a map showing project location. For preapplications. use a separate sheet to provide a summary description of this project.
12	List only the largest political entities affected (e.g., State, counties, cities).
13	Self-explanatory.
14	List the applicant's Congressional District and any District(s) affected by the program or project.
15	Amount requested or to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions should be included on appropriate lines as applicable. If the action will result in a dollar change to an existing award, indicate *only* the amount of the change. For decreases, enclose the amounts in parentheses. If both basic and supplemental amounts are included, show breakdown on an attached sheet. For multiple program funding, use totals and show breakdown using same categories as item 15.
16.	Applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372 to determine whether the application is subject to the State intergovernmental review process.
17.	This question applies to the applicant organization, not the person who signs as the authorized representative. Categories of debt include delinquent audit disallowances, loans and taxes.
18.	*To* be signed by the authorized representative of the applicant. A copy of the governing body's authorization for you to sign this application as official representative must be on file in the applicant's office. (Certain Federal agencies may require that this authorization be submitted as part of the application.)

OMB Approval No. 0348-004

BUDGET INFORMATION - Construction Programs

NOTE' Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$ 195.020 .00	$ .00	$ 195.020 .00
2. Land, structures, rights-of-way, appraisals, etc.	$ - .00	$ .00	$ - .00
3. Relocation expenses and payments	$ - .00	$ .00	$ - .00
4. Architectural and engineering fees	$ 15,000 .00	$ .00	$ 15,000 .00
5. Other architectural and engineering fees	$ - .00	$ .00	$ - .00
6. Project inspection fees	$ 32,130 .00	$ .00	$ 32,130 .00
7. Site work	$ - .00	$ .00	$ - .00
8. Demolition and removal	$ - .00	$ .00	$ - .00
9. Construction	$ 420,000 .00	$ .00	$ 420,000 .00
10. Equipment	$ - .00	$ .00	$ - .00
11. Miscellaneous (Monitoring)	$ 187,500 .00	$ .00	$ 187,500 .00
12. SUBTOTAL *(sum of lines 1-11)*	$ 849,650 .00	$ .00	$ 849,650 .00
13. Contingencies	$ 187,500 .00	$ .00	$ 187,500 .00
14. SUBTOTAL	$ 1,037,150 .00	$ .00	$ 1,037,150 .00
15. Project (program) income	$ - .00	$ .00	$ - .00
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$ 1,037,150 .00	$ .00	$ 1,037,150 .00

FEDERAL FUNDING

17. Federal assistance reauested. calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X _____% $1,037,150	$ 1,037,150 .00

Previous Edition Usable

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Standard Form 424C (Rev. 7-97)
Prescribed by OMB Circular A-102

INSTRUCTIONS FOR THE SF-424C

This sheet is to be used for the following types of applications: (1) 'New' (means a new [previously unfunded] assistance award); (2) 'Continuation" (means funding in a succeeding budget period which stemmed from a prior agreement to fund); and (3) 'Revised' (means any changes in the Federal Government's financial obligations or contingent liability from an existing obligation). If there is no change in the award amount, there is no need to complete this form. Certain Federal agencies may require only an explanatory letter to effect minor (no cost) changes. If you have questions, please contact the Federal agency.

Column a. - If this is an application for a "New" project. enter the total estimated cost of each of the items listed on lines 1 through 16 (as applicable) under "COST CLASSIFICATION."

If this application entails a change to an existing award, enter the eligible amounts ***approved under the previous award*** for the items under "COST CLASSIFICATION."

Column b. - If this is an application for a "New" project, enter that portion of the cost of each item in Column a. which is *not* allowable for Federal assistance. Contact the Federal agency for assistance in determining the allowability of specific costs.

If this application entails a change to an existing award, enter the adjustment [+ or (-)] to the previously approved costs (from columna.) reflected in this application.

Column. -This is the net of lines 1 through 16 in columns "a." and "b."

Line 1 - Enter estimated amounts needed to cover administrative expenses. Do not include costs which are related to the normal functions of government. Allowable legal costs are generally only those associated with the purchases of land which is allowable for Federal participation and certain services in support of construction of the project.

Line 2 - Enter estimated site and right@)-of-way acquisition costs (this includes purchase, lease, andlor easements).

Line 3 - Enter estimated costs related to relocation advisory assistance, replacement housing, relocation payments to displaced persons and businesses, etc.

Line 4 - Enter estimated basic engineering fees related to construction (this includes start-up services and preparation of project performance work plan).

Line 5 - Enter estimated engineering costs, such as surveys, tests, soil borings. etc.

Line 6 - Enter estimated engineering inspection costs

Line 7 - Enter estimated costs of site preparation and restoration which are not included in the basic construction contract.

Line 9 - Enter estimated cost *of* the construction contract.

Line 10 - Enter estimated cost of office, shop, laboratory. safety equipment, etc. to be used at the facility, if such costs are not included in the construction contract.

Line 11 - Enter estimated miscellaneous costs

Line 12 - Total of items 1 through 11.

Line 13 - Enter estimated contingency costs. (Consult the Federal agency for the percentage of the estimated construction cost to use.)

Line 14 - Enter the total of lines 12 and 13.

Line 15 - Enter estimated program income to be earned during the grant period, e.g., salvaged materials, etc.

Line 16 - Subtract line 15 from line 14

Line 17 - This block is for the computation of the Federal share. Multiply the total allowable project costs from line 16, coiumn "c." by the Federal percentage share (this may be up to 100 percent; consult Federal agency for Federal percentage share) and enter the product on line 17.

OMB Approval No. 0348-0042

ASSURANCES - CONSTRUCTION PROGRAMS

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE Certain of these assurances may not be applicable to your project or program. If you have questions. please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is !he case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will not dispose of, modify the use of, or change the terms of the real property title, or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal interest in the title of real properly in accordance with awarding agency directives and will include a covenant in the title of real properly aquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.

4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.

5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms ,with the approved plans and specifications and will furnish progress reports and such other information as may be required by the assistance awarding agency or State.

6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686). which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 5794). which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975. as amended (42 U.S.C §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse: (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

11 Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Properly Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose properly is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real properly acquired for project purposes regardless of Federal participation in purchases.

12 Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

13 Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.

14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and *to* purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity *of* Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. 557401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related *to* protecting components or potential components of the national wild and scenic rivers system.

17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
Executive Director	
APPLICANT ORGANIZATION	DATE SUBMITTED
Association of Bay Area Governments	5/3/00

U.S. Department of the interior

Certifications Regarding Debarment, Suspension and Other Responsibility Matters, Drug-Free Workplace Requirements and Lobbying

Persons signing this form should refer to the regulations referenced below for complete instructions:

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions - The prospective primary participant further agrees by submitting this proposal that it will include the clause titled, "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction." provided by the department. or agency entering into .this covered transaction, without modification, In all lower tier covered transactions and in all solicitations for lower tier covered transactions. See below for language to be used; use this form for certification and sign: or use Department of the Interior Form 1954 (DI-1954). (See Appendix A of Subpart D of 43 CFR Part 12.)

Certification Regarding Debarment. Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions - (See Appendix B of Subpart D of 43 CFR Part 12.)

Certification Regarding Drug-Free Workplace Requirements. Alternate I. (Grantees Other Than Individuals) and Alternate II. (Grantees Who are Individuals) - (See Appendix C of Subpart D of 43 CFR Part 12)

Signature on this form provides for compliance with certification requirements under 43 CFR Parts 12 and 18. The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of the Interior determines to award the covered transaction. grant, cooperative agreement or loan.

PART A Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

CHECK √ IF THIS CERTIFICATION IS FOR A PRIMARY COVERED TRANSACTION AND IS APPLICABLE.

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred. suspended, proposed for debarment, dedared ineligible. or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminai offense in connection with obtaining, attempting *Io* obtain. or performing a public (Federal. State Or local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement. theft, forgery. bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification: and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective Primary participant is unable to certify *Io* any of the statements in this certification, such prospective participant shall attach an explanatipn to this proposal.

PART B: Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions

CHECK__IF THIS CERTIFICATION IS FOR A LOWER TIER COVERED TRANSACTION AND IS APPLICABLE.

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

DI-2010
March 1985
(This form consolidates DI-1953, DI-1954, DI-1955, DI-1956 and DI-1962)

PART C: Certification Regarding Drug-Free Workplace Requirements

CHECK ✓ IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS NOT AN INDIVIDUAL.

Alternate I. (Grantees Other Than Individuals)

A. The grantee certifies that it will or continue *to* provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture. distribution. dispensing. possession. or use *of* a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing an ongoing drug-free awareness program to inform employees about--
(1) The dangers of drug abuse in the workplace;
(2) The grantee's policy *of* maintaining a drug-free workplace:
(3) Any available drug counseling. rehabilitation, and employee assistance programs: and
(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace:

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that. as a condition of employment under the grant, the employee will -
(1) Abide by the terms of the statement; and
(2) Notify the employer in writing *of* his or her conviction for a violation *of* a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;

(e) Notifying the agency in writing. within ten calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice. including position title. to every grant officer on whose grant activity the convicted employee was working. unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification numbers(s) of each affected grant;

(f) Taking one *of* the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted -
(1) Taking appropriate personnel action against such an employee, up to and induding termination. consistent with the requirements of the Rehabilitation Act of 1973. as amended; or
(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved far such purposes by a Federal, State, or local health. law enforcement, or other appropriate agency;

(g) Making a good faith effort *to* continue to maintain a drug-free workplace through implementation of paragraphs (a) (b), (c), (d). (e) and (f).

B. The grantee may insert in the space provided below the site(s for the performance of work done in connection with the specific grant:

Place *of* Performance (Street address, *city.* county. state. zip code)

101 Eighth Street. Oakland. CA 94607

Check — if there are workplaces on file that are not identified here.

PART D: Certification Regarding Drug-Free Workplace Requirements

CHECK — IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS AN INDIVIDUAL.

Alternate II. (Grantees Who Are individuals)

(a) The grantee certifies that. as a condition of the grant. he or she will not engage in the unlawful manufacture. distribution. dispensing, possession, Or use of a controlled substance in conducting any activity with the grant:

(b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity. he *or* she will report the conviction. in writing, within 10 calendar days of the conviction, to the grant officer or other designee. unless the federal agency designates a central point for the receipt of such notices. When notice is made to such a central point. it shall include the identification number(s) of each affected grant

PART E: Certification Regarding Lobbying
Certification for Contracts, Grants, Loans, and Cooperative Agreements

CHECK __ IF CERTIFICATION IS FOR THE AWARD OF ANY OF THE FOLLOWING AND THE AMOUNT EXCEEDS $100,000: A FEDERAL GRANT OR COOPERATIVEAGREEMENT, SUBCONTRACT, OR SUBGRANT UNDER THE GRANT OR COOPERATIVE AGREEMENT.

CHECK __ IF CERTIFICATION IS FOR THE AWARD OF A FEDERAL LOAN EXCEEDING THE AMOUNT OF $ 150,000, OR A SUBGRANT OR SUBCONTRACT EXCEEDING $ 100,000, UNDER THE LOAN.

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will he paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans. and cooperative agreements) and that all subrecipients shall certify accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

As the authorized certifying official, I hereby certify that the above specified certifications are true

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL Eugene Y. Leong

TYPED NAME AND TITLE Eugene Y. Leong, Executive Director

DATE 5/3/00

State of California
The Resources Agency
Department of Water Resources

Agreement No. _____

Exhibit _____

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH RID FOR PUBLIC WORKS

STATE OF CALIFORNIA)
)ss
COUNTY OF Alameda)

Eugene Y. Leong , being first duly sworn, deposes and
(name)

says that he or she is Executive Director of
(position title)

Association of Ray Area Governments
(the bidder)

the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham: that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

DATED: 5/3/00

By Eugene Y. Leong
(person signing for bidder)

Subscribed and sworn to before me on
May 3, 2000

Suzan L Ryder
(Notary Public)

SUZAN L. RYDER
Commission # 1183329
Notary Public - California
Alameda County
My Comm. Expires May 11, 2002

(Notarial Seal)

STATE OF CALIFORNIA

NONDISCRIMINATION COMPLIANCE STATEMENT

STD. 19 (REV. 3-95) EMC

COMPANY NAME

Association of Bay Area Governments

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME

Eugene Y. Leong

DATE EXECUTED

5/3/00

EXECUTED IN THE COUNTY OF

Alameda

PROSPECTIVE CONTRACTOR'S SIGNATURE

Eugene Y. Leong

PROSPECTIVE CONTRACTOR'S TITLE

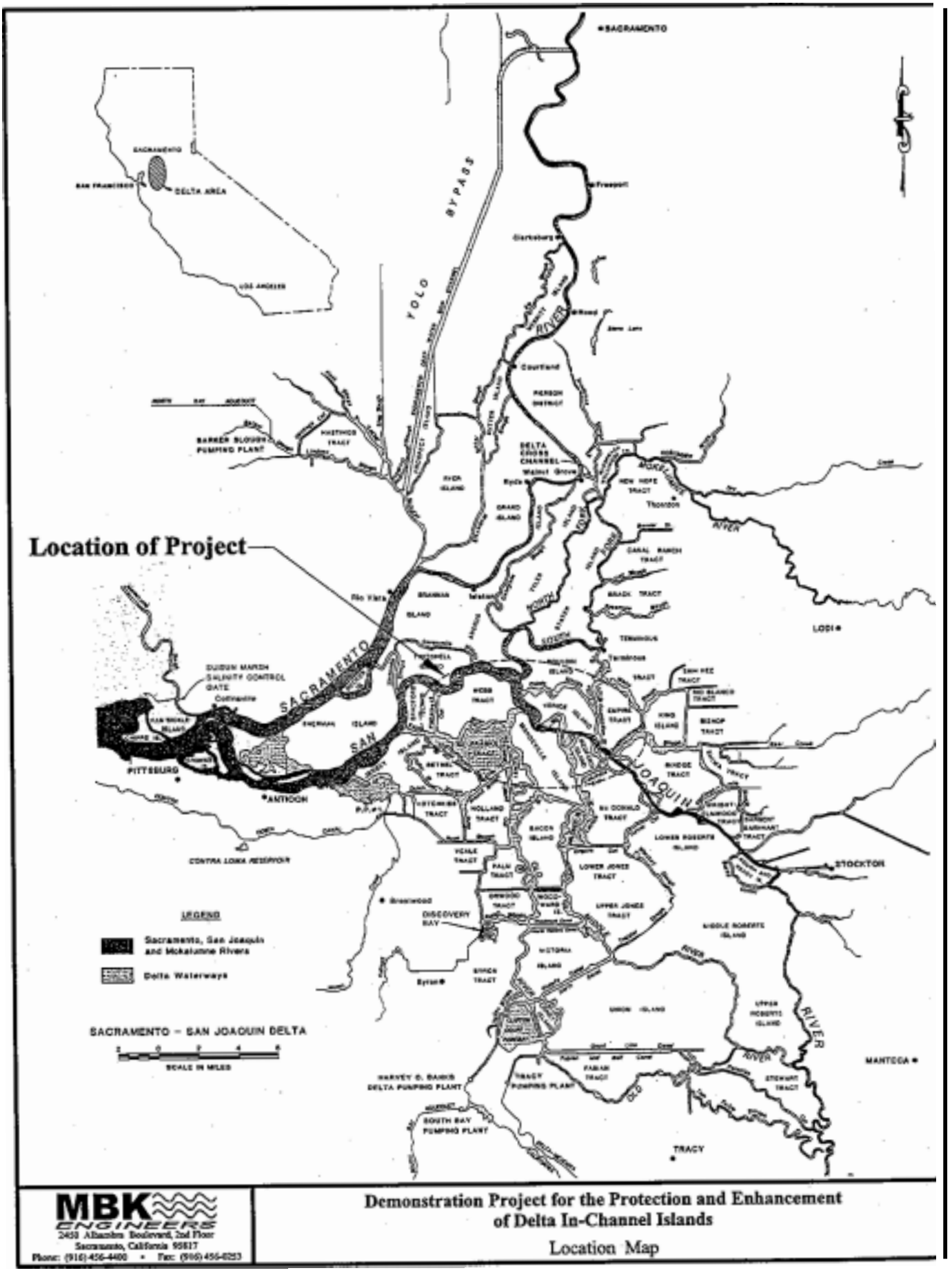
Executive Director

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

Association of Bay Area Governments

Figures and Tables

FIGURE 1. General **Location**

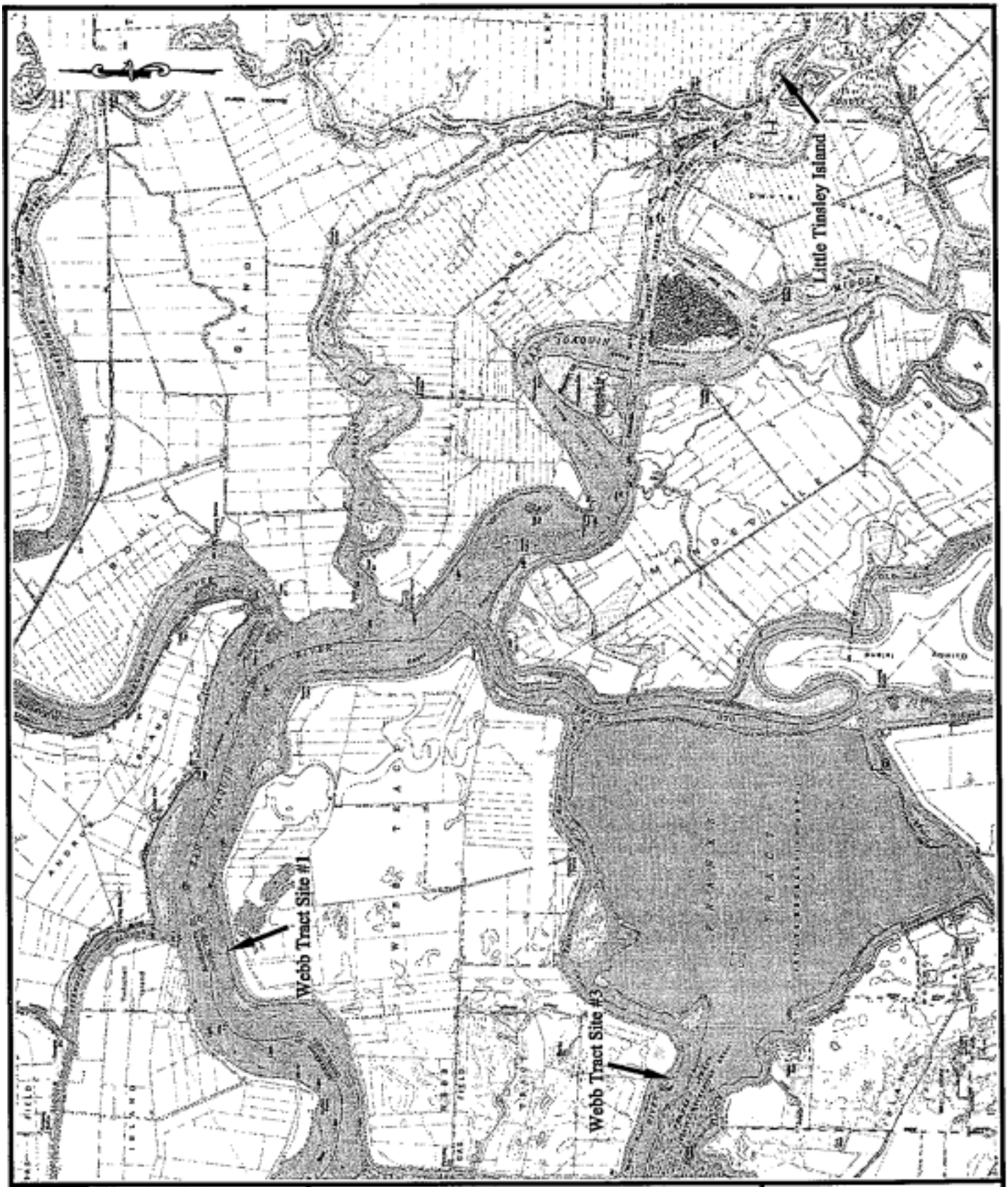


MBK ENGINEERS
2450 Alhambra Boulevard, 2nd Floor
Sacramento, California 95817
Phone: (916) 456-4400 • Fax: (916) 456-8253

Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

Location Map

FIGURE 2. Project Sites



MURRAY, BURNS AND KIENLEN
Consulting Civil Engineers
1616 29th Street, Suite 300
Sacramento, California 95816
(916) 456-4400

Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

Project Sites

0 0.5 1.0 1.5
Scale in Miles

FIGURE 3. Webb Tract Site #1

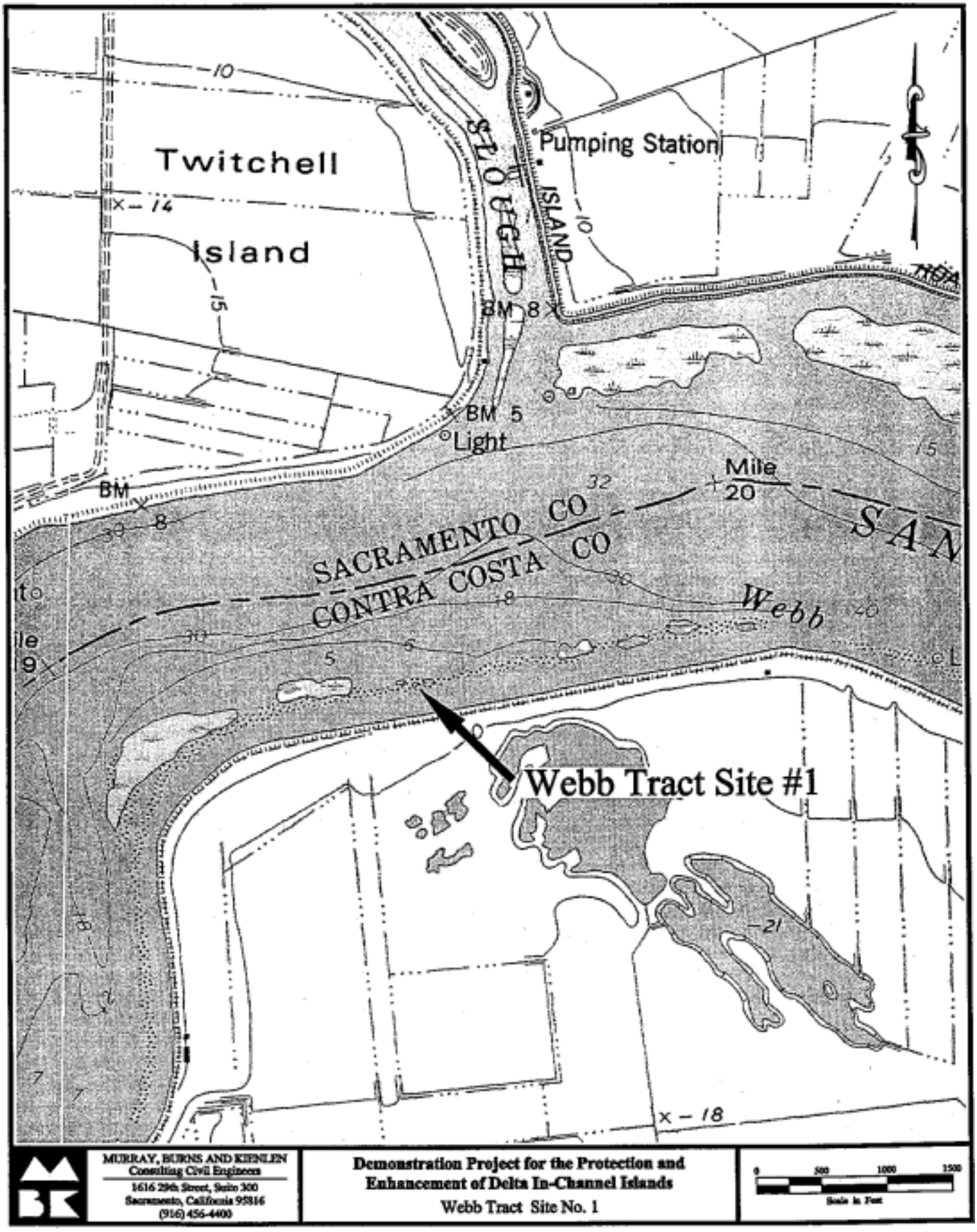


FIGURE 4. Webb Tract Site #3

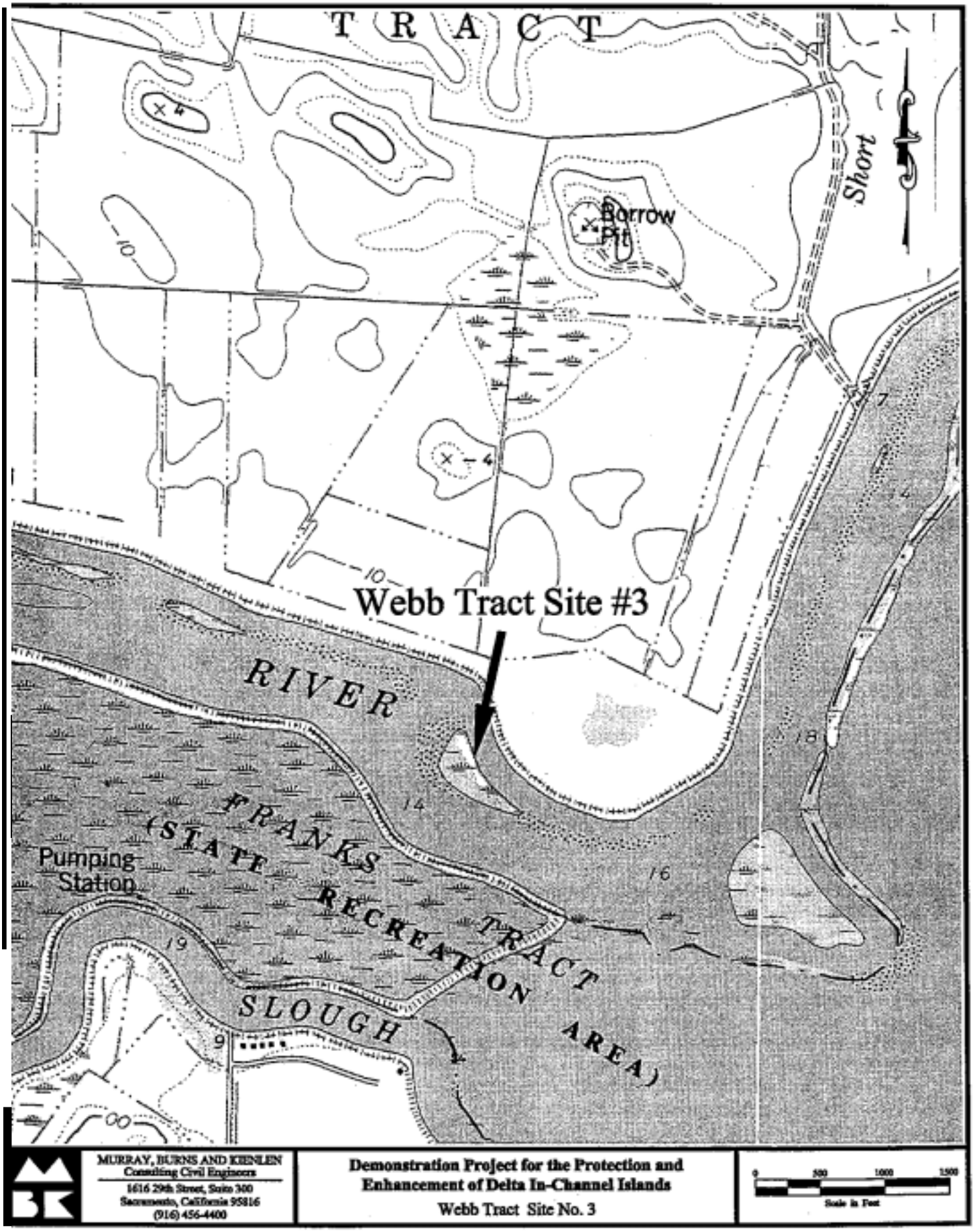
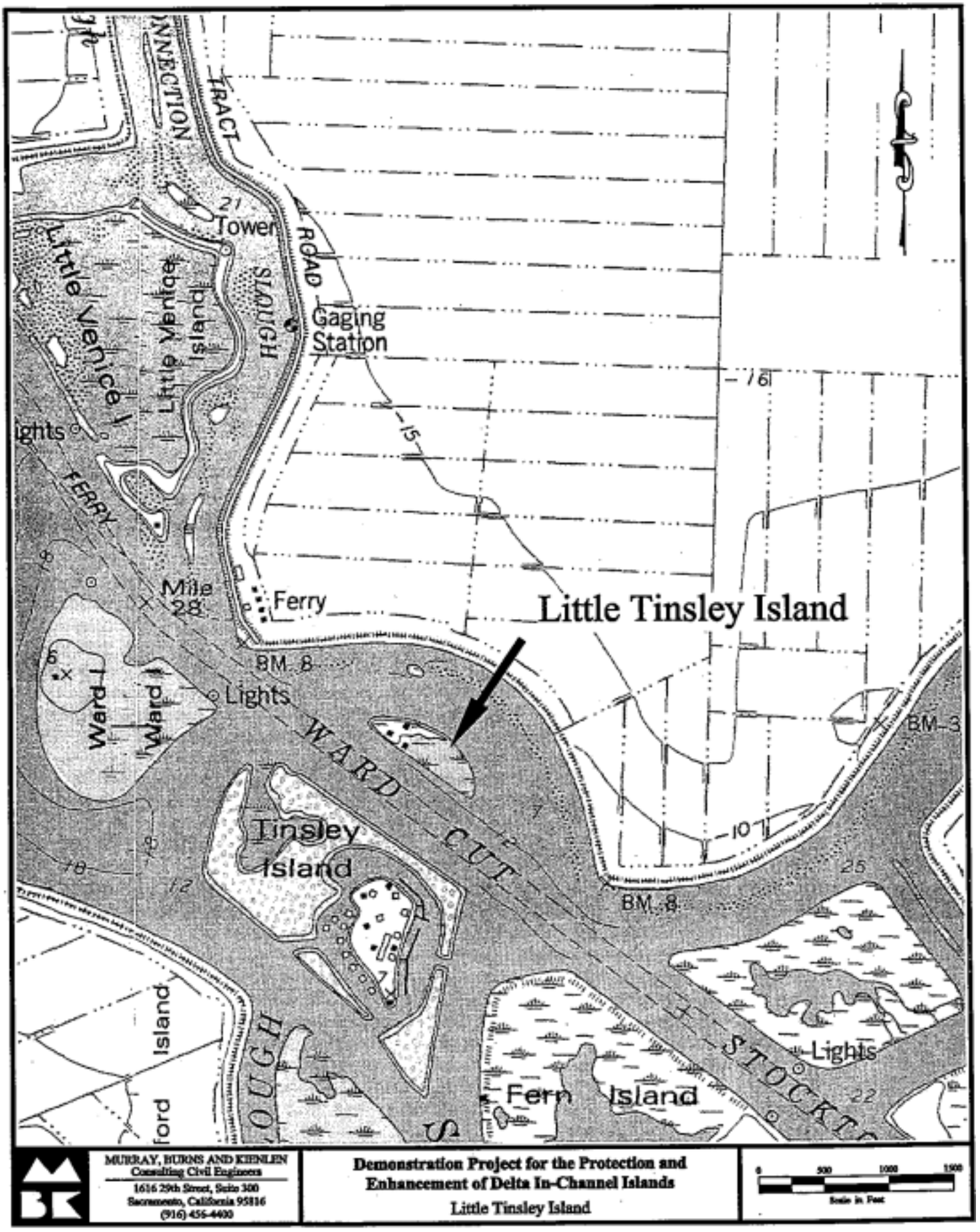


FIGURE 5. Little Tinsley Island



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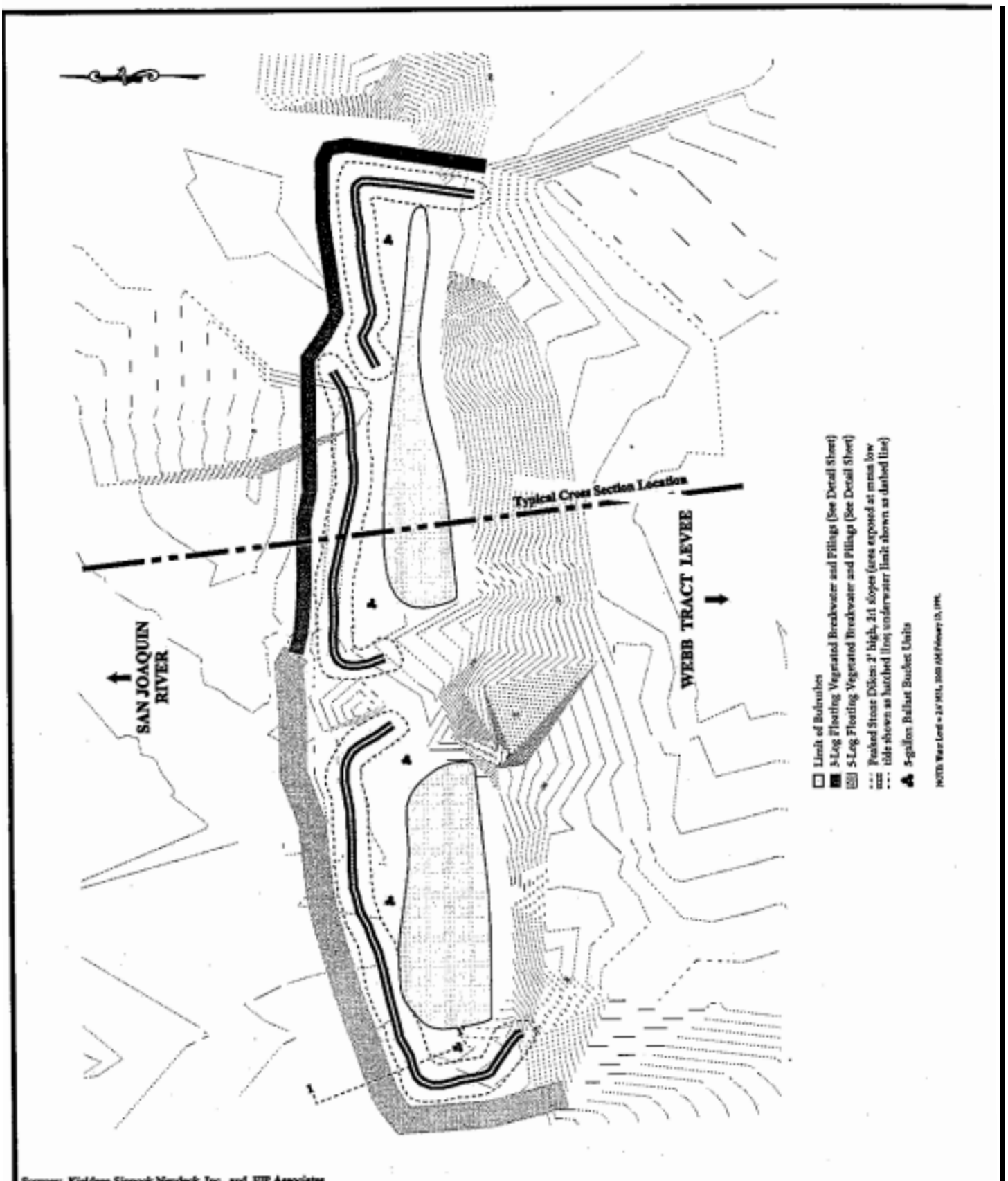
Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

Little Tinsley Island

0 500 1000 1500
Scale in Feet

FIGURE 6. Plan View - Webb Tract Site #1



Sources: Kjeldsen Sinnock Neudeck, Inc. and EIP Associates

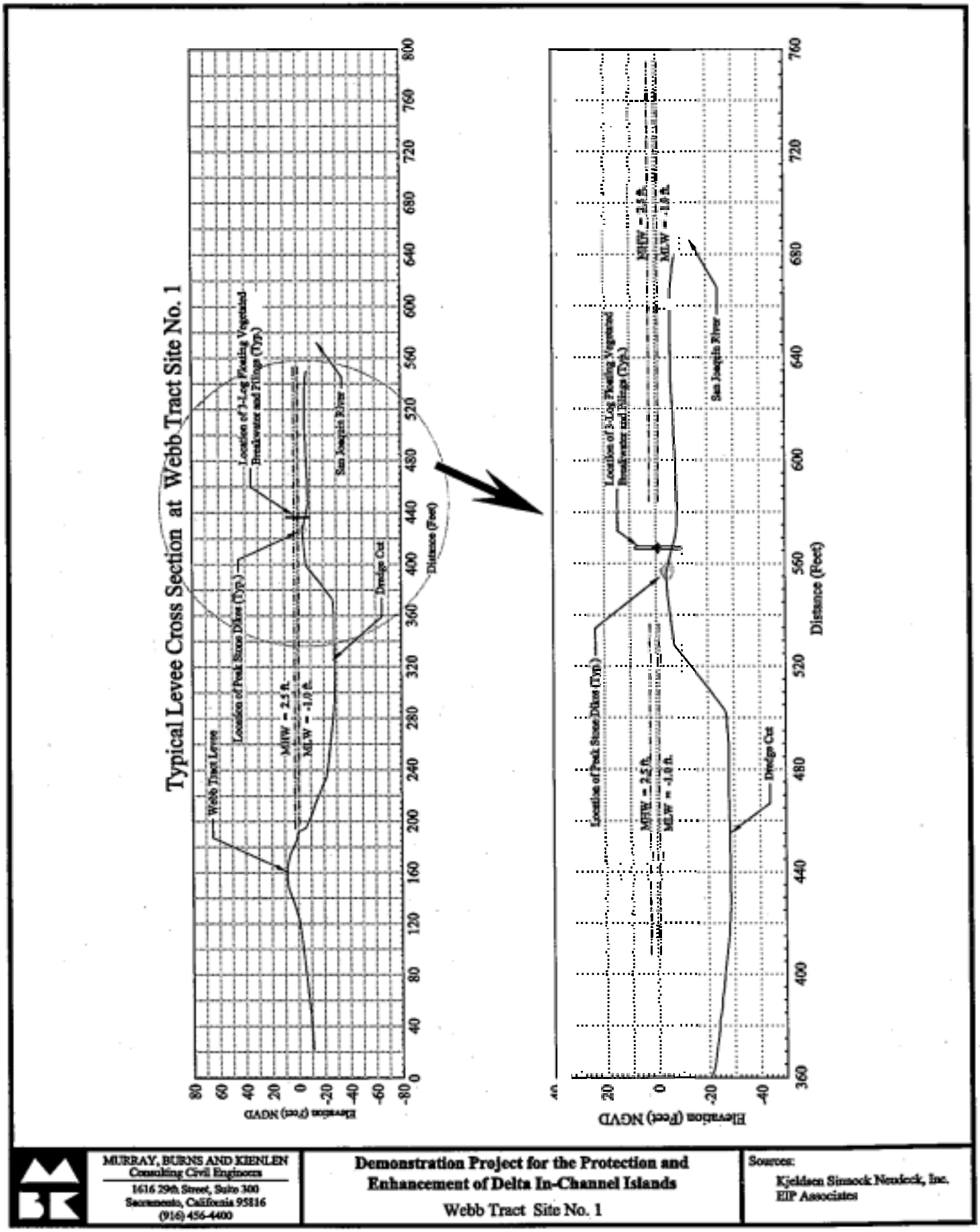
MURRAY, BURNS AND KIENLEN
Consulting Civil Engineers
1616 29th Street, Suite 300
Sacramento, California 95816
(916) 456-4400

Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

Webb Tract Site No. 1

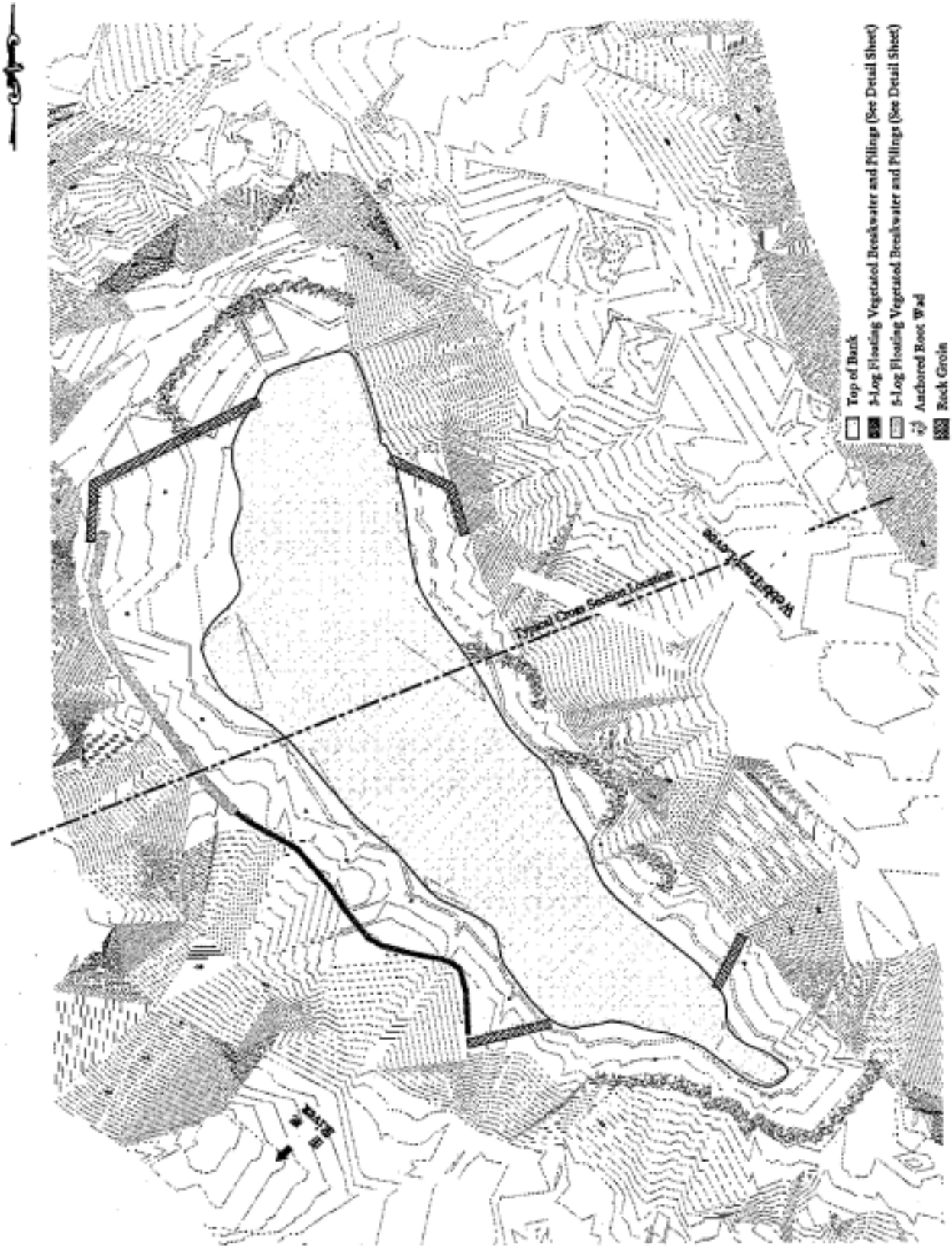
0 15 30 45
Scale in Feet

FIGURE 7. ***Cross*** **Section - Webb** Tract **Site #1**



MURRAY, BURNS AND KIENLEN Consulting Civil Engineers 1616 29th Street, Suite 300 Sacramento, California 95816 (916) 456-4400	**Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands** Webb Tract Site No. 1	Sources: Kjeldsen Sinnock Neudeck, Inc. EIP Associates

FIGURE 8. **Plan View - Webb** Tract **Site #3**



Source: Kjeldsen Sinnock Neudeck, Inc. and EIP Associates

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Sacramento, California 95816
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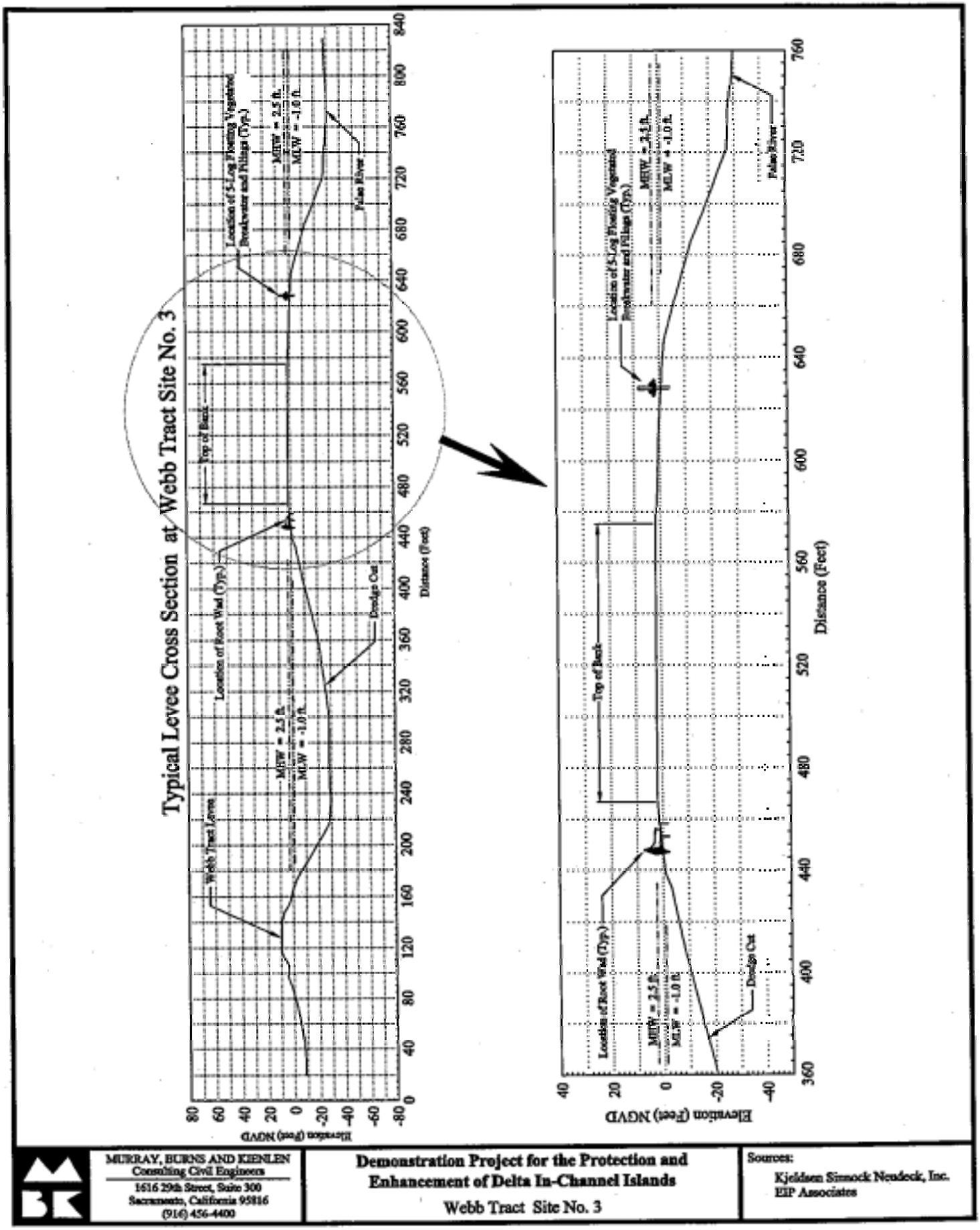
Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

Webb Tract Site No. 3

0 40 80 120
Scale in Feet

FIGURE 9. Cross Section - Webb Tract Site.#3



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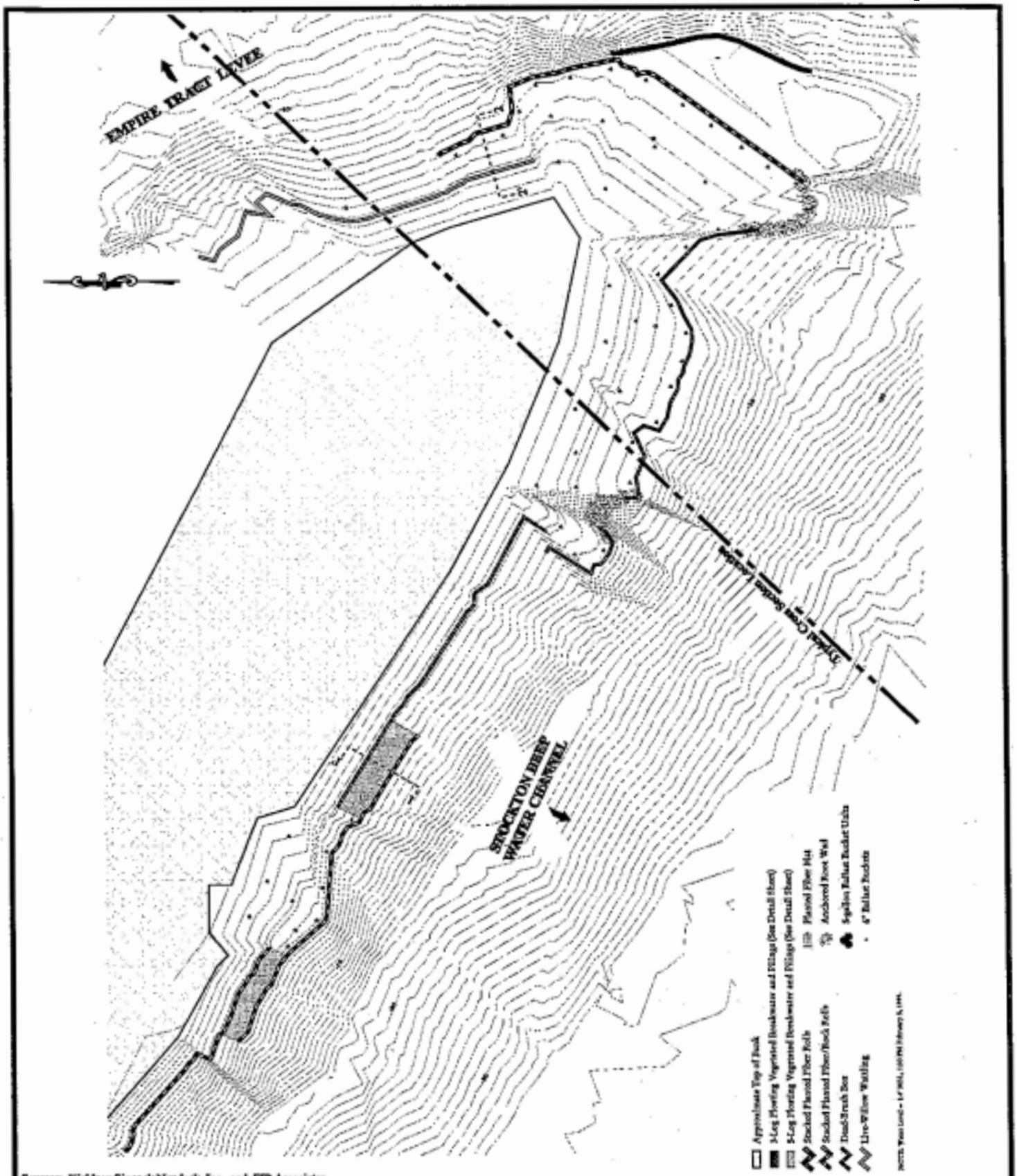
(916) 456-4400

Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

Webb Tract Site No. 3

Sources:
Kjeldsen Sinnock Neudeck, Inc.
EIP Associates

FIGURE 10. Plan View - Little Tinsley Island



Sources: Kjeldsen Sinnock Neudeck, Inc. and EIP Associates

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Consulting Civil Engineers
1616 29th Street, Suite 300
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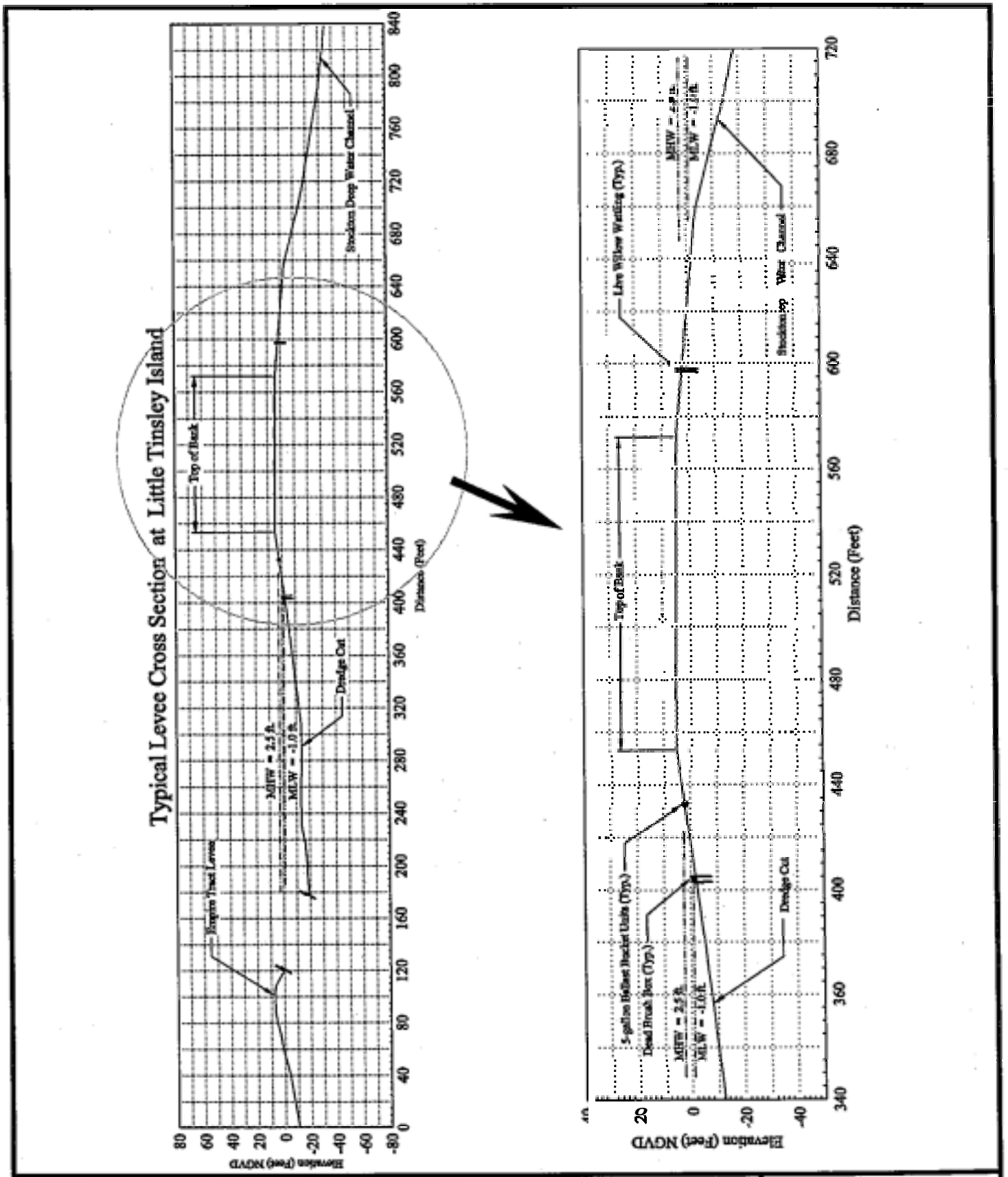
(916) 456-4400

Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

Little Tinsley Island

0 40 80 120
Scale in Feet

FIGURE 11. Cross Section - Little Tinsley Island



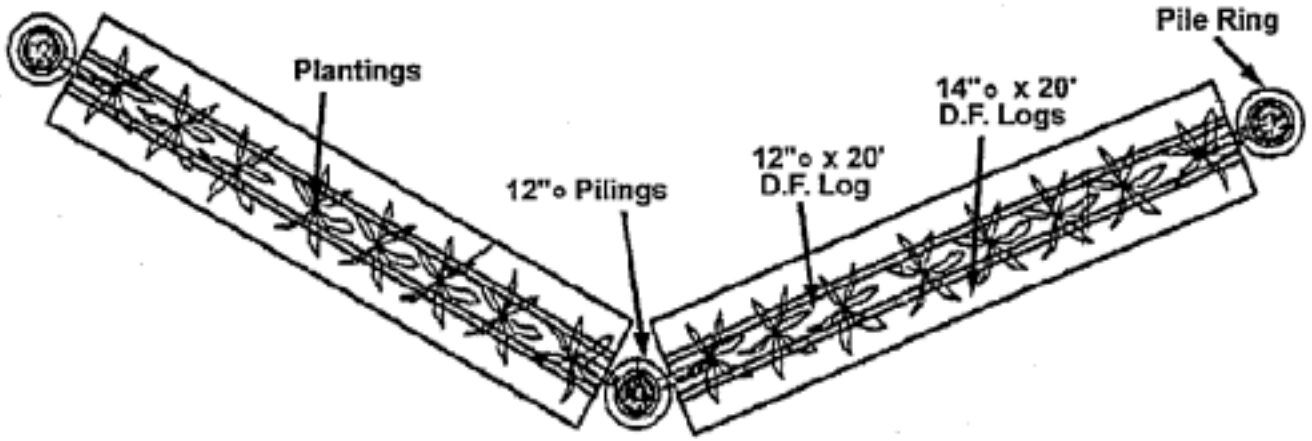
MURRAY, BURNS AND KIENLEN
Consulting Civil Engineers
1616 29th Street, Suite 300
Sacramento, California 95816
(916) 456-4400

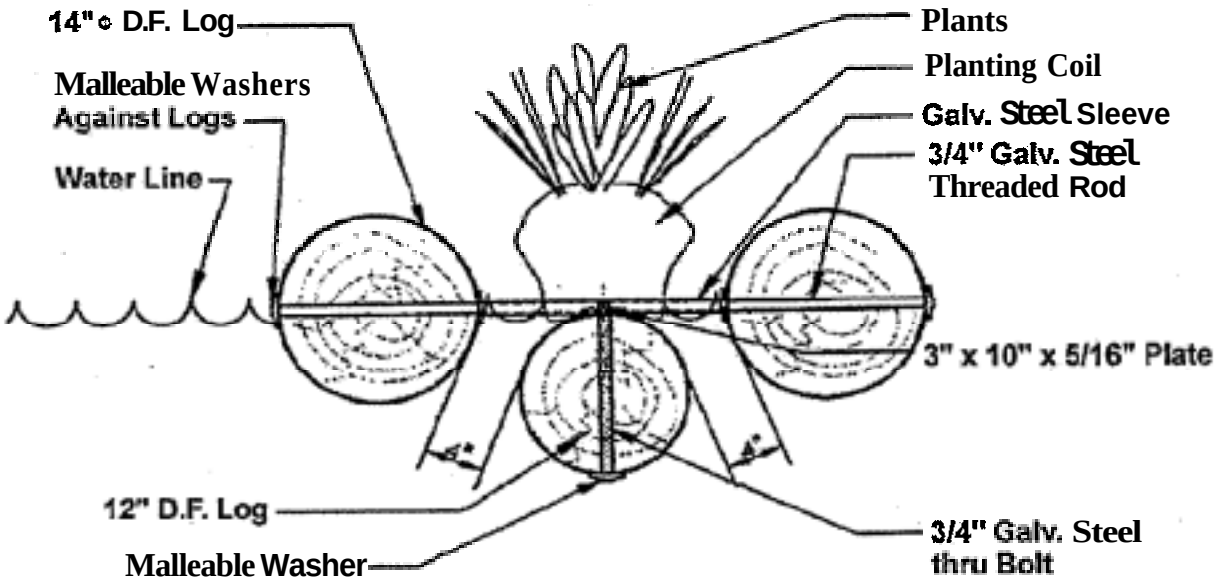
Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

Little Tinsley Island

Sources:
Kjeldsen Sinnock Neudeck, Inc.
EIP Associates

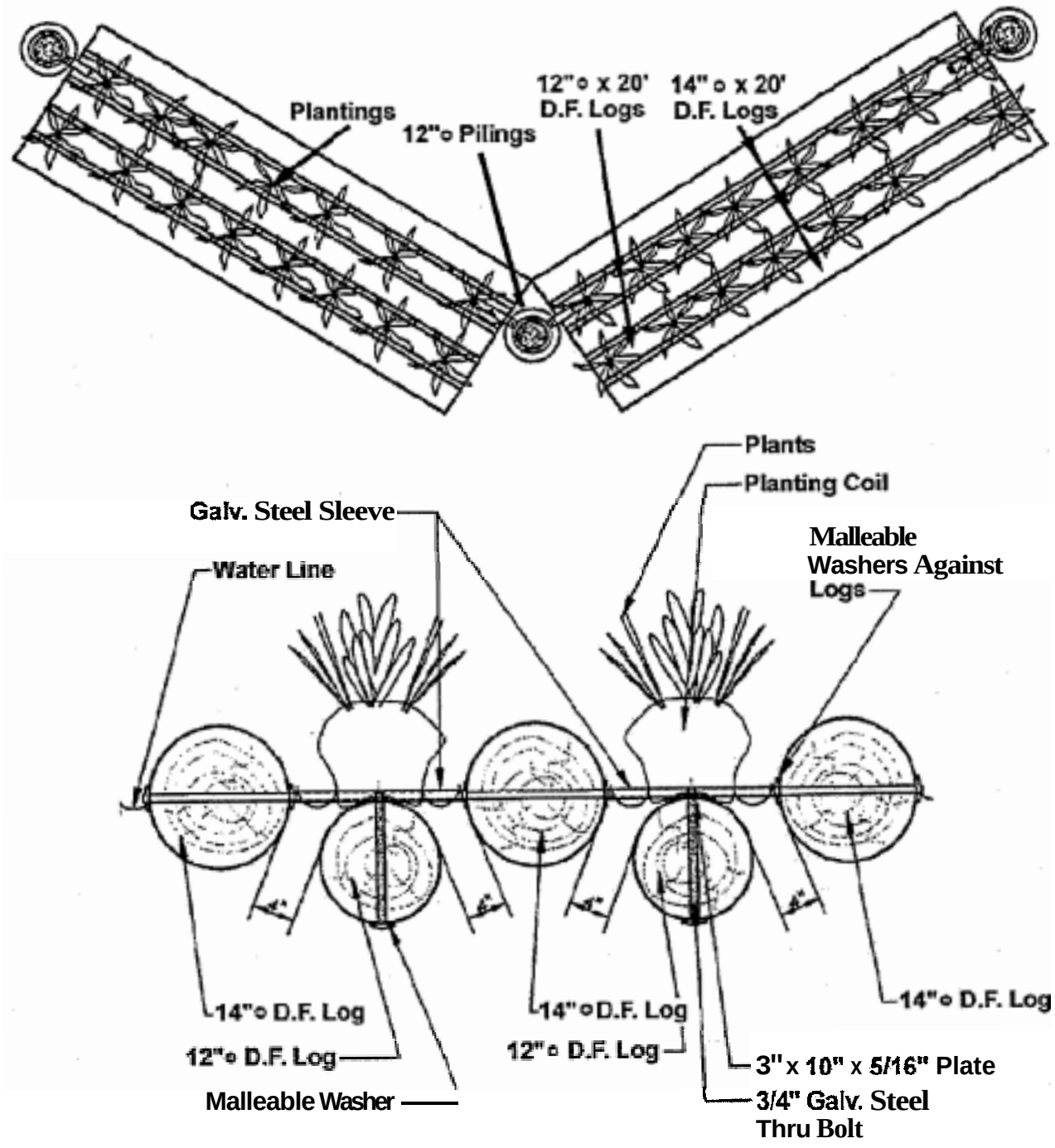
FIGURE 12. Detail - Floating Breakwater





3-Log Floating Vegetated Breakwater and Pilings Construction Detail (Typical)

MURRAY, BURNS AND KIENLEN Consulting Civil Engineers 1616 29th Street, Suite 300 Sacramento, California 95816 (916) 456-4400	**Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands** Detail	Sources: Kjeldsen Sinnock Neudeck, Inc. EIP Associates Not to Scale



5-Log Floating Vegetated Breakwater and Pilings Construction,Detail (Typical)

MURRAY, BURNS AND KIENLEN
Consulting Civil Engineers
1616 29th Street, Suite 300
Sacramento, California 95816
(916) 456-4400

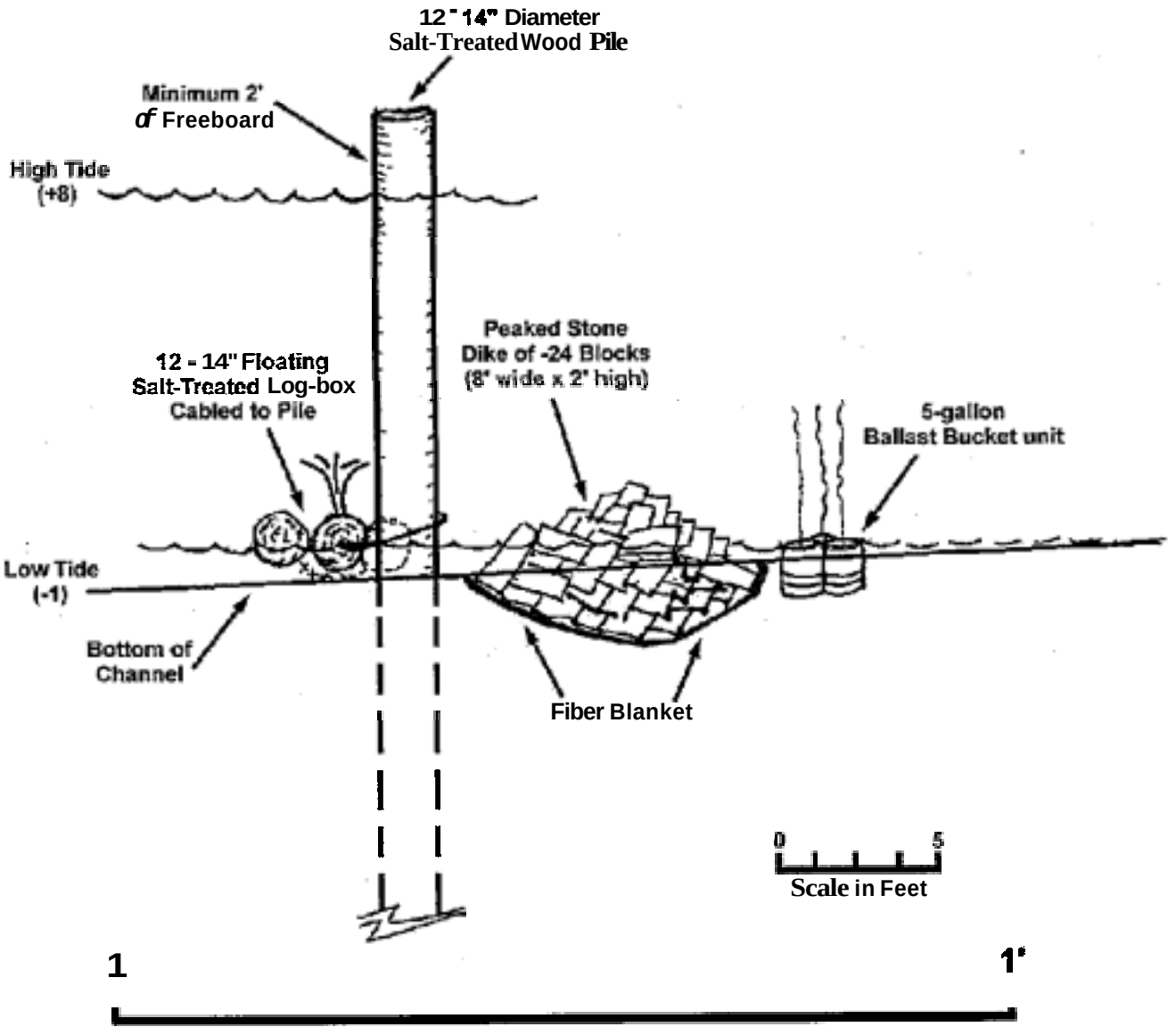
Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

Detail

Sources:
Kjeldsen Sinnock Neudeck, Inc.
EIP Associates

Not to Scale

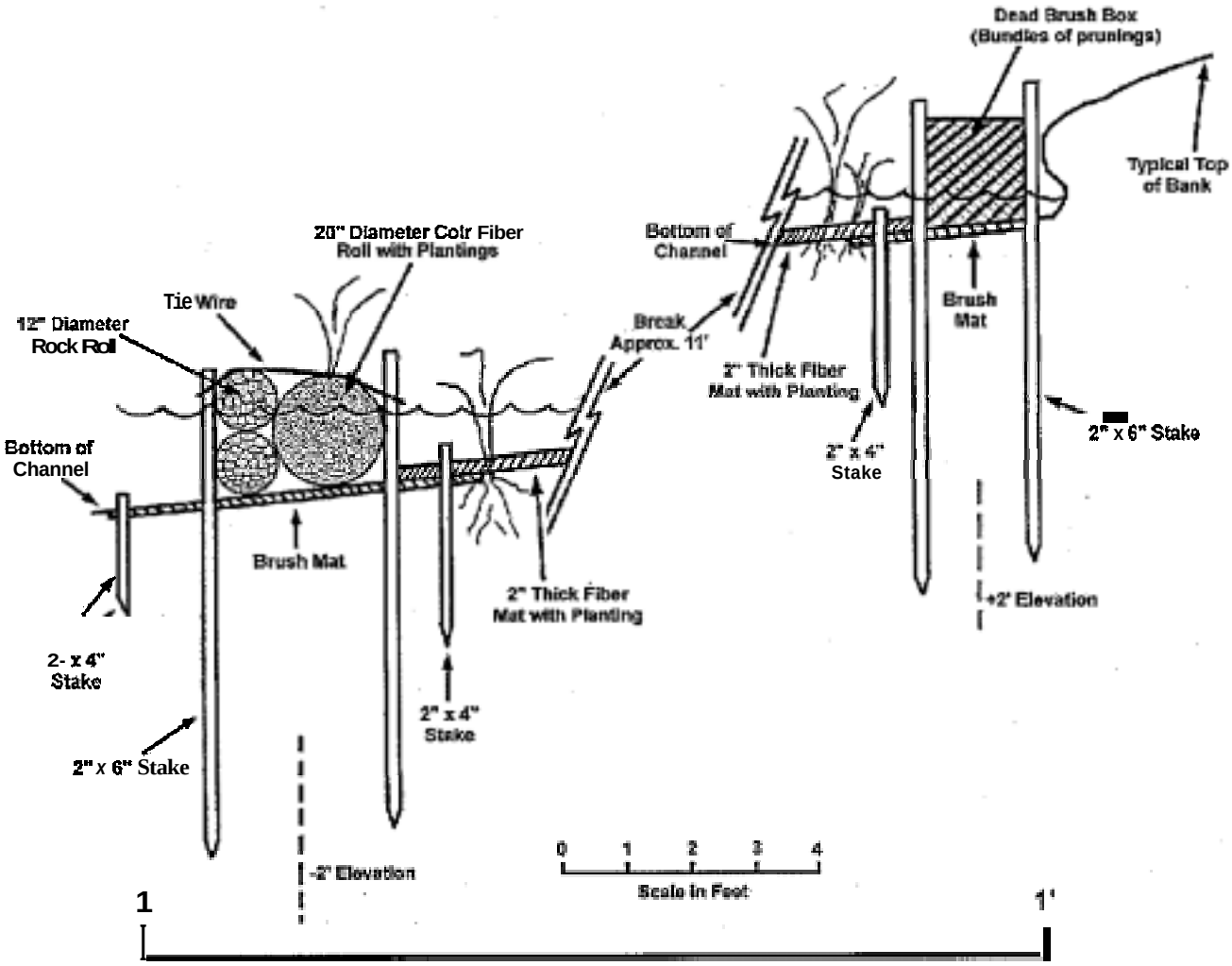
FIGTJRE 14. Detail Section - Webb Tract Site #1



Webb Tract No. 1
Section 1

MURRAY, BURNS AND KIENLEN Consulting Civil Engineers 1616 29th Street, Suite 300 Sacramento, California 95816 (916) 456-4400	**Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands** Detail	Sources: Kjeldsen Sinnock Neudeck, Inc. EIP Associates

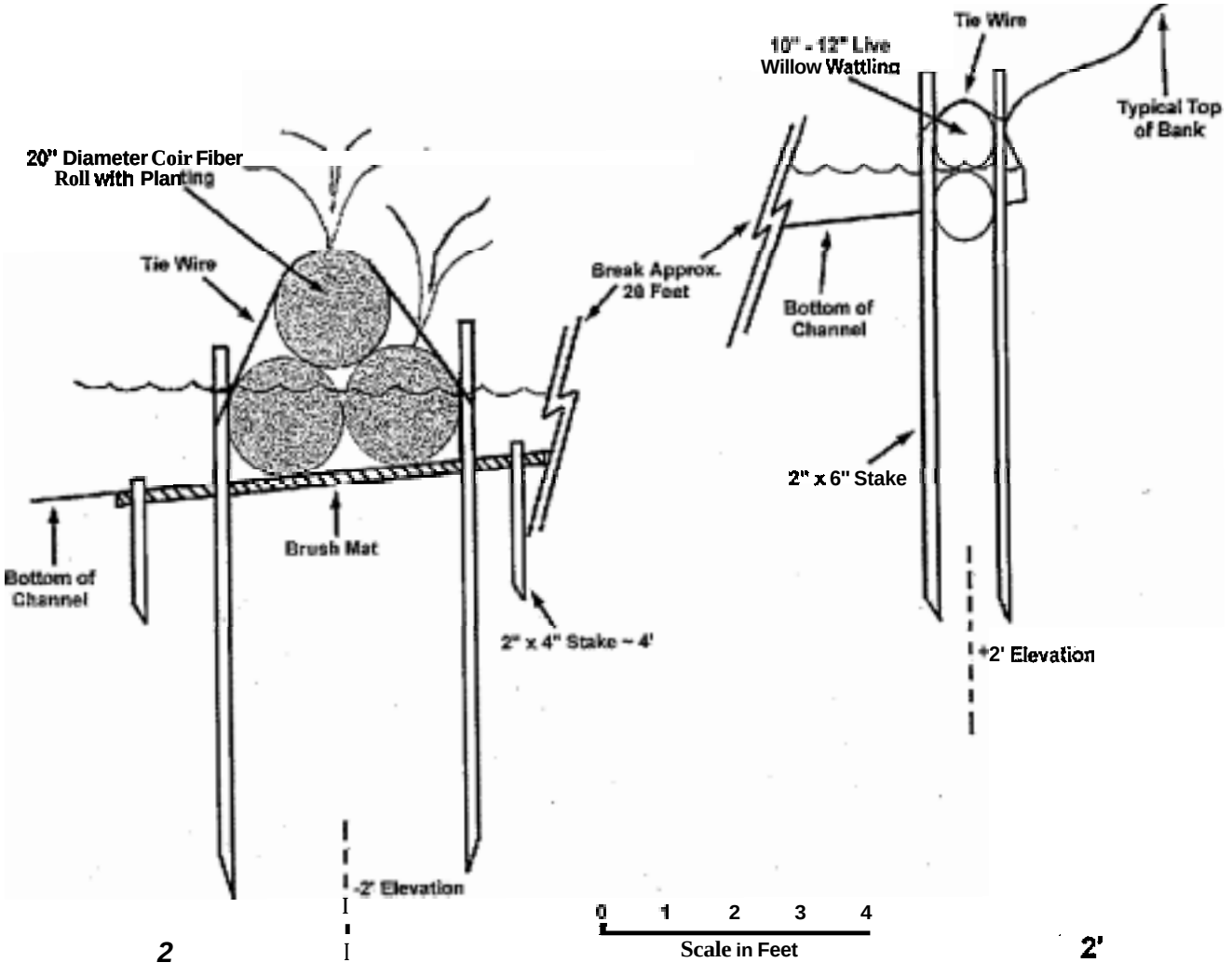
FIGURE 15. Detail Section - Little Tinsley Island



Little Tinsley Island
Section 1

MURRAY, BURNS AND KIENLEN Consulting Civil Engineers 1616 29th Street, Suite 300 Sacramento, California 95816 (916) 456-4400	**Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands** Detail	Sources: Kjeldsen Sinnock Neudeck, Inc. EIP Associates

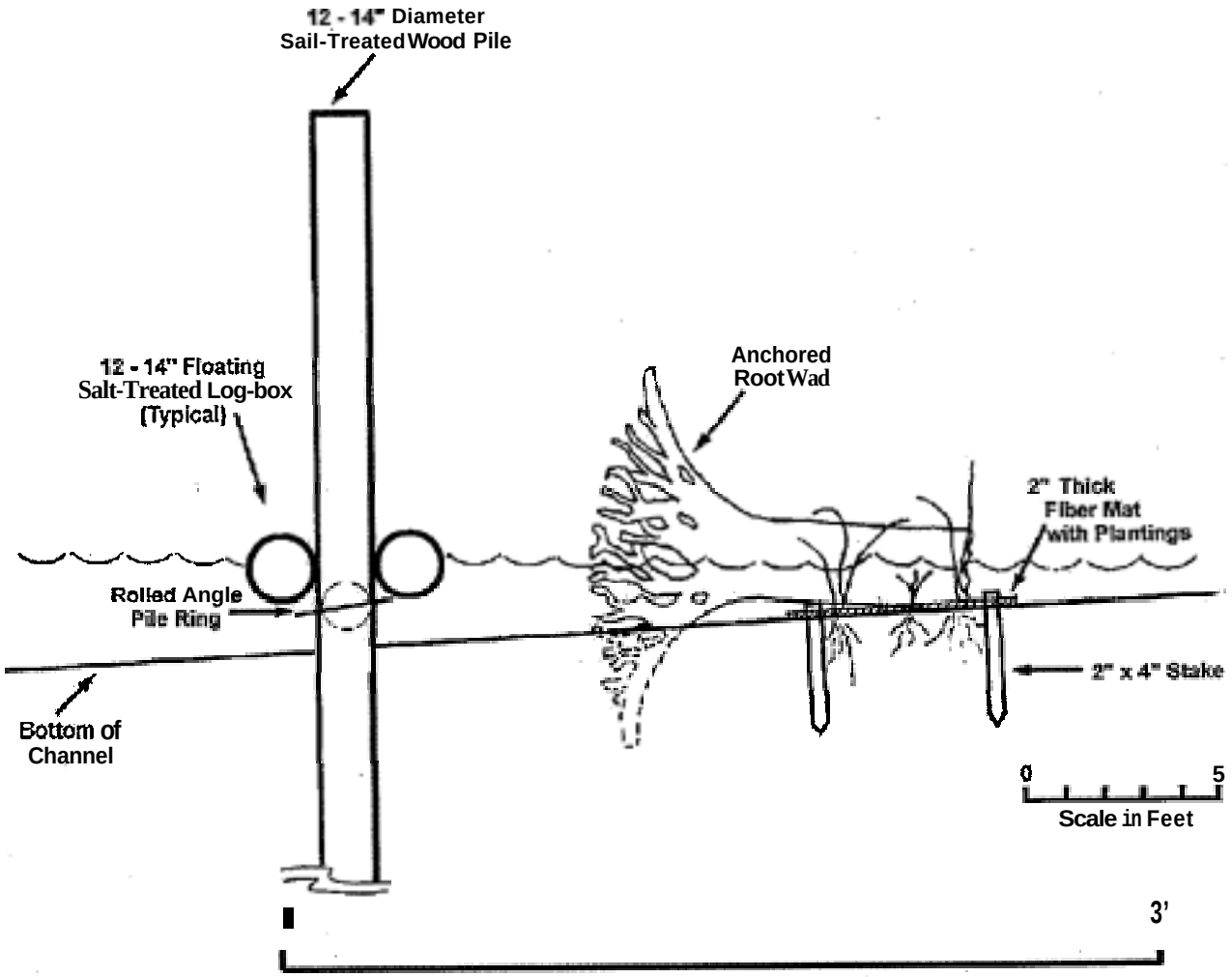
FIGURE 16. Detail Section - **Little Tinsley** Island



Little Tinsley Island
Section 2

MURRAY, BURNS AND KIENLEN Consulting Civil Engineers 1616 29th Street, Suite 300 Sacramento, California 95816 (916) 456-4400	**Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands** Detail	Sources: Kjeldsen Sinnock Neudeck, Inc. EIP Associates

FIGURE 17. Detail Section - Webb Tract Site #3



Webb Tract NO. 3
Section 1

MURRAY, BURNS AND KIENLEN Consulting Civil Engineers 1616 29th Street, Suite 300 Sacramento, California 95816 (916) 456-4400	**Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands** Detail	Sources: Kjeldsen Sinnock Neudeck, Inc. EIP Associates

TABLE 3: Bioengineering methodology for the various treatments under consideration for the proposed Delta In-channel Island Demonstration Project.

General Type	Sub-Type	Construction Techniques
Pilings		The vertical members are to be 12 to 14 inches in diameter salt-treated wood pilings sunk into the substrate to a depth sufficient for anchoring log-booms and boxes. There should be enough freeboard remaining to keep the booms and boxes from coming free of the piling during combined peak storm and tide events.
Breakwaters	Floating Vegetated Breakwaters	These units come in two separate widths: 3 and 5 log. They are constructed in the same manner and from the same materials (20 feet long and 12 to 14 inches in diameter salt-treated wood pilings). A 3-log unit is constructed by placing two 14-inch-diameter logs parallel to each other and a 12-inch-diameter log is placed below them to form a V-shape. Care is taken to ensure that a 4-inch gap is left between the upper and lower logs. The entire assembly is then bolted together with threaded rods placed on 5-foot centers. In the space between the two upper logs a custom-built planted fiber roll is installed and anchored in place. The entire unit is attached to the vertical piling with a rolled angle pile ring that allows the log-boxes to rise and fall with the tide changes. A 5-log unit (or a double box) is constructed in a similar manner as discussed above except that three 14-inch- and two 12-inch-diameter logs are used to create a W-shape on which two rolls of fiber and plants are installed.
	Peak stone dike	The peak stone dike is to be constructed from -24 stone (rocks approximately 24 inches by 12 inches by 12 inches). To achieve a proper slope of 1:2 and a 2-foot final vertical elevation, the base of the dike must be 8 feet wide. A fiber mat may be placed below the peak stone dike or a gabion type structure may be used to keep the stone from sinking too far into the substrate. The peak stone dike is to be constructed at approximately the minus 3-to 4-foot contour so that the peak of the dike just breaks the surface at mean low tide.
	Rock groin	The rock groin construction details are still under design.
	Root Wads	Root wads will be obtained from a local source (fruit or nut orchard) and are expected to be several feet in diameter with a segment of trunk remaining. The exact dimensions will vary and depend on the source. All root wads are to be placed so that the trunks are pointed towards the island. It will be necessary to place pilings periodically that will allow the root wads to be cabled together and anchored in place. As specified in the various drawings there are to be gaps in the row of root wads. At these locations, the ends of the two rows should overlap.

General Type	Sub-Type	Construction Techniques
Breakwaters (continued)	Rock and fiber rolls	At either side of the proper contour level, two rows of stakes, 31 inches apart, are driven into the substrate on 2-foot centers to a depth of 6 feet and let sit for 30 minutes before installing rolls. Stakes made from 8-foot-long 2-by 6-inch lumber with a point and barbs cut at one end. These stakes also hold in place two 3-foot by 16-footbrush mattress, set side by side, that extend approximately 2 feet in front of the roll assembly to prevent undercutting. One of the treatments involves stacking two rock rolls and a fiber roll to form a pyramid. Installation would involve placing a rock roll between the rows of stakes as far from the island as possible. The fiber roll would be placed on the island side of this rock roll. The second level would be another rock roll placed on top of the rock and fiber rolls. The entire assembly is then wired to the stakes and the fiber roll is planted. The other treatment involving **rolls,** does not use any rock rolls. This is a stack of three 20-inch-diameter fiber rolls. Essentially installation is the same as discussed above with the minor difference that the two rows of stakes need to be 40 inches apart. The brush mats to be used are manufactured by Bestmann Green Systems under the name BestLift Brush-Mat™. They come in a single standard size: 3 feet wide by 16 feet long by 0.8 inches thick. The rock **rolls** to he used are manufactured by Bestmann Green Systems under the name BesTec Rock-Roll™. The size required for this project are 12 inches in diameter and come in 6-foot lengths. Due to the weight of the fill **roll,** over 110 pounds per linear foot, power equipment **is** required for installation. The fiber rolls to be used are manufactured by Bestmann Green Systems under the name ArmaFlor Fiber-Roll™. The size required for this project are 20 inches in diameter and come in 10-foot lengths.
Breakwaters (continued)	Brush boxes	The brush used to create the brush boxes is to be obtained from a local source such as orchard prunings. The brush can be wired into small bundles (4 to 6 inches in diameter) off site. The brush bundles are placed between parallel rows of stakes and wired in place. Stakes made from 8-foot-long 2-by 6-inch lumber with a point and barbs cut at one end. At the proper contour level (minus 2 feet), two rows of stakes, 18 inches apart, are driven into the substrate on 2-foot centers to a depth of 6 feet and let sit for 30 minutes before installing the pre-bundled brush. These stakes also hold in place a 3-foot by 16-foot brush mattress that extend approximately 2 feet in front of the brush box to prevent undercutting. The bundles are then packed as densely as possible between the stakes to achieve the desired total height of approximately 2 feet. Once the desired elevation is reached, wire **is** used to tie the bundles in place. This is done by running wire between the stakes directly across from each other and to those on diagonal. Bundles should be placed so they overlap and no vertical seams are created.
Plantings	Small ballast buckets	These are a biodegradable fiber pot that is 6 inches in diameter by 16 inches tall and partially filled with scoria, soil, and plant material. Sometime prior to installation these are planted with the appropriate species for their destination. These small buckets are intended to be placed within the rock groins if possible where the stones will hold them in place. They will also be placed behind or within the nearshore brush boxes on Little Tinsley.

General Type	Sub-Type	Construction Techniques
Plantings (continued)	Large ballast buckets	The large ballast buckets are made from three 5-gallon biodegradable fiber pots wired together. They are filled and planted in a manner similar to the 6-inch pots (scoria, soil, and plant material) and planted prior to installation. These units are to be staked into the substrate with a single center stake to a depth of approximately half their height.
	Fiber mats	The fiber mats to be used are manufactured by Bestmann Green Systems under the name ArmaFlor Fiber Mat™. The factory cut dimensions are 16 feet by 3 feet by 2 inches but they can be cut on-site to the required size. These mats are to be located as specified in the site treatment on the island side of the breakwaters (peak stone dike or root wad wall). Stakes (4-foot 2-by 4-inch lumber with a point and barbs cut at one end) are to be driven through the mat and into the substrate as far as possible and let sit for 30 minutes before installing plants on the mat. It may be necessary to tie the mat between stakes with wire or other suitable material. In some instances the mats may be attached to nearby root wads. Regardless of how they are fixed to the ground, the mats will then be planted with the appropriate vegetation.
	Live willow wattling	Live willow cuttings are to be assembled into bundles for installation. These bundles are generally 1 to 2 feet longer than the longest cutting. They are tied in 10-to 12-inch diameter bundle every 12 to 15 inches on center. A row of stakes (8-foot 2-by 6-inch lumber with a point and barbs cut at one end) is installed every 2 feet on center. The fust wattling bundle is then placed into a shallow trench (or pushed into the substrate) that is approximately 4 to 6 inches deep and covered with soil. The second bundle is placed on top of the fust and wired to the stakes.

TABLE 4. Cost Tables

YEAR 1

Year	Task	Direct Labor Hours	Salary & Benefits	Overhead Admin & Fee	Service Contracts	Total Cost
Year 1	Task 1. Organizational					
	Subtask a. Admin/Tech Support					
	1. Project Coord.				$37,500	$37,500
	2. Work group support					In-kind
	3. Accnt/Contract manag.	890	$35,500	$11,500		$47,000
	Subtask b. Construct./Admin					
	1. Final design/specs				$15,000	$15,000
	2. Design inspect.				$19,080	*$19,080*
	3. Construc. manag.				$15,050	$15,050
	4. Construc. inspect.				$13,050	$13,050
	5. Subcontract admin.				$10,970	$10,970
	Task **1.** Subtotal	890	**$35,500**	**$11,500**	**$110,650**	**$157,650**
	Task 2. Construction					
	Subtask a. Webb Tract #1				$150,000	$150,000
	Subtask b. Little Tinsley				$270,000	$270,000
	Task **2.** Subtotal				$420,000	**$420,000**
	Task 3. Monitoring					
	Subtask a. Final Plans				$18,000	$18,000
	Subtask b. Biological Monitoring				$30,000	$30,000
	Task 3. Subtotal				$48,000	**$48,000**
Total Cost Year **1**		890	**$35,500**	**$11,500**	**$578,650**	**$625,650**

YEAR 2

Year	Task	Direct Labor Hours	Salary & Benefits	Overhead Admin & Fee	Service Contracts	Total cost
Year2	Task 1. Organizational					
	Subtask a. Admin/Tech Support					
	1. Project Coord.				$37,500	$37,500
	2. Workgroup support					In-kind
	3. Accnt/Contract manag.	*890*	$35,500	$11,500		$47,000
	Task **2.** Construction Maintenance'				$62,500	$62,500
	Task 3. Biological Monitoring				**$46.500**	$46,500
Total Cost Year **2**		890	**$35,500**	**$11,500**	**$146,500**	**$193,500**

YEAR 3

Year	Task	Direct Labor Hours	Salary &Benefits	Overhead Admin & Fee	Service Contracts	Total cost
Year 3	Task 1. Organizational Subtask a. Admin/Tech Support 1. Work group support					In-kind
Year 3	Task 2. Construction Maintenance				$62,500	$62,500
Year 3	Task 3. Biological Monitoring				$46.500	$46.500
Total Cost Year 3					**$109,000**	**$109,000**

YEAR 4

Year	Task	Direct Labor Hours	Salary & Benefits	Overhead Admin & Fee	Service Contracts	Total cost
Year 4	Task 1. Organizational Subtask a. Admin/Tech Support 1. Work group support					In-kind
	Task 2. Construction Maintenance				$62,500	$62,500
	Task 3. Biological Monitoring				$46.500	$46.500
Total Cost Year 4					**$109.000**	**$109.000**
Total Project Cost		**1780**	**$71,000**	**$23,000**	**$941,150**	**$1,037,150**

APPENDIX A

Compliance with Applicable Laws and Regulations

1. CEQA/NEPA: Mitigated Negative Declaration/Initial Study

2. Sections 404110 Clean Water Act/Section 10 Rivers and Harbors Act: Letter **of** Permission from the **U.S.** Army Corps **of** Engineers

   - Covers State and Federal Endangered Species Act Consultation

3. Regional Water Quality Control Board: Water Quality Certification or Waiver

4. State Lands Commission: Land Lease **of** Public Trust Lands

This Appendix **A** contains evidentiary documentation **of** the above permits, agreements and approvals. Complete documents available upon request.

Notice of Completion SCH 99092108 Form A

State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

DEPT. OF FISH & GAME REGION 2 OCT 05 1999 — NOTE: below

SCH #

Project Title: Delta Channel Islands Demonstration Project

Lead Agency: Calif. Dept. Fish and Game — **Contact Person:** Ed Littre

Street Address: 1701 Nimbus Road — **Phone:** (916) 358-2924

City: Rancho Cordova, California **Zip:** 95670 — **County:** Sacramento

Project Location

County: Contra Costa — **City/Nearest Community:** Brentwood

Cross Streets: N.A. — **Zip Code:** N.A. — **Total Acres:** 11 ±/-

Assessor's Parcel No. 26-060-06 — **Section:** N.A. — **Twp.** 3N — **Range:** 3E — **Base:** Mt. Diab.

Within 2 Miles: **State Hwy #:** — **Waterways:** San Joaquin River

Airports: — **Railways:** — **Schools:**

DEPT. OF FISH & GAME REGION 2 OCT 12 1999

Document Type

CEQA: ☐ NOP ☐ Early Cons ☒ Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent ☐ EIR (Prior SCH No.) ☐ Other

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

RECEIVED OCT 1999 STATE CLEARINGHOUSE

Local Action Type

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan

☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan

☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, Parcel Map, Tract Map, etc.)

☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☒ Other Plant and Animal Habitat

Development Type

☐ Residential: Units Acres

☐ Office: Sq.ft. Acres Employees

☐ Commercial: Sq.ft. Acres Employees

☐ Industrial: Sq.ft. Acres Employees

☐ Educational

☐ Recreational

☐ Water Facilities: Type MGD

☐ Transportation: Type

☐ Mining: Mineral

☐ Power: Type Watts

☐ Waste Treatment: Type

☐ Hazardous Waste: Type

☒ Other: Plant and Animal Habitat

Project Issues Discussed in Document

☒ Aesthetic/Visual
☐ Agricultural Land
☐ Air Quality
☐ Archeological/Historical
☐ Coastal Zone
☐ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☐ Flood Plain/Flooding
☐ Forest Land/Fire Hazard
☐ Geologic/Seismic
☐ Minerals
☐ Noise
☐ Population/Housing Balance
☐ Public Services/Facilities
☐ Recreation/Parks
☐ Schools/Universities
☐ Septic Systems
☐ Sewer Capacity
☐ Soil Erosion/Compaction/Grading
☐ Solid Waste
☐ Toxic/Hazardous
☐ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☐ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Wildlife
☐ Growth Inducing
☐ Landuse
☐ Cumulative Effects
☐ Other

Present Land Use/Zoning/General Plan Use: OPEN SPACE

Project Description Stabilization and improvement of "Channel Islands" for fish and wildlife. Development of "soft" techniques to stabilize eroding land in the Sacramento-San Joaquin River Delta.

- www.opr.ca.gov/clearinghouse.html

NOTE: Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. from a Notice of Preparation previous draft document) please fill it in.

Revised October 1989

Reviewing Agencies Checklist

KEY
S = Document sent by lead agency
X = Document sent by SCH
✓ = Suggested distribution

____Resources Agency
✓ Boating & Waterways
____Coastal Commission
____Coastal Conservancy
____Colorado River Board
____Conservation
✓ Fish & Game
____Forestry
____Office of Historic Preservation
____Parks & Recreation
____Reclamation
✓ S.F. Bay Conservation & Development Commission
✓ Water Resources (DWR)

Business, Transportation & Housing
____Aeronautics
____California Highway Patrol
____CALTRANS District #_____
____Department of Transportation Planning (headquarters)
____Housing & Community Development

____**Food & Agriculture**

Health & Welfare
____Health Services _____

State & Consumer Services
____General Services
____OLA (Schools)

Environmental Affairs
____Air Resources Board
____APCD/AQMD
____California Waste Management Board
____SWRCB: Clean Water Grants
✓ SWRCB: Delta Unit
____SWRCB: Water Quality
____SWRCB: Water Rights
✓ Regional WQCB #_____ (Central Valley)

Youth & Adult Corrections
____Corrections

Independent Commissions & Offices
____Energy Commission
____Native American Heritage Commission
____Public Utilities Commission
____Santa Monica Mountains Conservancy
✓ State Lands Commission
____Tahoe Regional Planning Agency

____Other _____

Public Review Period (to be filled in by lead agency)

Starting Date 9/30/99 Ending Date 10/30/99

Signature _____ Date 9/30/99

Lead Agency (Complete if applicable):

Consulting Firm: EIP Associates
Address: 601 Montgomery St.
City/State/Zip: San Francisco, CA 94111
Contact: Ted Adams
Phone: (415) 362-1.500

Applicant: Cal. Dept. Fish and Game
Address: 1701 Nimbus Road
City/State/Zip: Rancho Cordova, CA 95670
Phone: (916) 358-2924

For SCH Use Only:

Date Received at SCH _____
Date Review Starts _____
Date to Agencies _____
Date to SCH _____
Clearance Date _____
Notes:

-- INITIAL STUDY --

DEMONSTRATION PROJECT FOR THE PROTECTION AND ENHANCEMENT OF DELTA IN-CHANNEL ISLANDS

Prepared For:

California Department of Fish and Game
on behalf of:.
Association of Bay Area Governments
San Francisco Estuary Project

Prepared By:

EIP Associates
601 Montgomery Street
Suite 500
San Francisco, Calif. 94111

(415) 362-1500

September, 1999

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

November 9. 1999

Regulatory Branch (199800154)

Mr. Ed Littrell
California Department of Fish and Game
Region 2
1701 Nimbus Road, Suite A
Rancho Cordova, California 95670

Dear Mr. Littrell:

This letter of permission authorizes your proposed discharge of dredged or fill material into navigable waters of the United States, including wetlands, to restore and enhance four **(4)** in-channel islands as shown on the attached drawings. The four locations are as follows: 1) Webb Tract Site #1, within the San Joaquin River, 2) Webb Tract Site #2 within Old River, 3) Webb Tract Site #3 within False River, **4)** Little Tinsley Island on Ward Cut. all within Township 2 North, Range 3 East, M.D.B. & M., Contra Costa County, California

The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the *Corps* of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer. **Work in waters of the United States must be in accordance with the following conditions of authorization:**

Special Conditions:

1. To protect the Federally listed as endangered Sacramento River winter-run chinook salmon (*Oncorhynchus tshawytscha*), the threatened steelhead (*Oncorhynchus mykiss*), the Central Valley ESU spring-run chinook salmon (*Oncorhynchus tshawytscha*), the threatened delta smelt (*Hypomesus transpacificus*), and its habitat, and the threatened Sacramento splittail (*Pogonichthys macrolepidotus*), in-water work may only take place between August 1 and November 30.

2. Best management practices must be followed during and after construction to minimize potential indirect adverse impacts to adjacent waters of the United States, including wetlands.

3. You must have your signature/(s) notarized on the original copy of the attached Declaration of Establishment of Conditions, Covenants and Restrictions (CC&Rs) in the spaces provided. Have the original copy of the CC&Rs recorded with the Contra Costa County Recorder's Office within 15 days and retain the duplicate copy of the document for your records.

4. You must furnish a certification report that the work, including any mitigation, has been completed in accordance with the conditions of this permit. This certification must be signed by the permittee or authorized representative and be provided to this office by no later than 60 days following the completion of the authorized work.

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2003. If you find that you need more time to complete the authorized activity, submit a request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of these requirements if you abandon the permitted activity. This permit may be transferred upon request provided the work complies with the terms and conditions of this authorization. When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Should you wish to cease to maintain the authorized activity or abandon it without a good faith transfer, you must obtain a permit modification from this office.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. You must insure that the work complies with the conditions of Section 401 water quality certification for this project.

5. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(✓) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(✓) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. 'Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public 'interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

This letter of permission becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below. Please refer to number 199800154 in any correspondence concerning this permit. If you have any questions, please write to Nancy Haley, Room 1480 at the letterhead address, or telephone (916) 557-7772.

For and on behalf of Colonel Michael J. Walsh, District Engineer.

Tom Coe
Chief, Central California/Nevada
Section

Attachments (20 drawings)

Copies Furnished: without attachments

U.S. Fish and Wildlife Service, Habitat Conservation Division, Wetlands Branch, 2800, Cottage Way, W-2605, Sacramento, California 95825
U.S. Environmental Protection Agency, Region IX, Wetlands Regulatory Office (WTR-8), 75 Hawthorne Street, San Francisco, California, 94105-3901
National Marine Fisheries Service, 650 Capitol Mall, Suite 6070, Sacramento, California 95814-4706
Murray, Bums & Kienlen, 1616 29th Street, Suite 300, Sacramento, California 95816
Kjeldsen, Sinnock, Neudeck, P.O.Boix 844, Stockton, California 95201-0844

Winston H. Hickox
Secretary for
Environmental
Protection

California Regional Water Quality Control Board

Central Valley Region

Steven T. Butler, Acting Chair

Gray Davis
Governor

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/~rwqcb5
3443 Routier Road, Suite A, Sacramento, California 95827-3003
Phone (916) 255-3000 • FAX (916) 255-3015

2 November 1999

Mr. Ed Littrell
California Department of Fish & Game
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

WAIVER OF WASTE DISCHARGE REQUIREMENTS AND WATER QUALITY CERTIFICATION FOX: DELTA CHANNEL ISLANDS DEMONSTRATION PROJECT, CONSTRA COSTA COUNTY

This letter responds to your request for a Clean Water Act Section 451 water quality certification that your proposed project will not violate State water quality standards. The project involves the following: Applicant proposes to construct bank protection and provide vegetation plantings to protect and enhance the eroding vegetate channel islands on approximately 5,500 linear feet of shoreline encompassing approximately 11 acres of habitat to be treated. in an effort to test techniques for controlling erosion of the islands.

Project type: Riparian restoration
Name, location of impacted jurisdictional waters and Hydrologic Unit: False River a tributary of the San Joaquin River located in Section 3. Range 3E. Township 2N. in Hydrologic Unit 544.00.
Acres of permanently impacted waters for each category of water body filled: 11.00 acres where habitat enhancement will occur plus 5,500 linear feet of shoreline that will bc protected by re-vegetation.
Acres of temporarily impacted acres of jurisdictional waters: Minimal to allow access of barges and crawler cranes to island sites.
Proposed mitigation measures, including acreage and location: Not required because the project is expected to create a more stable environment and to enhance fish and wildlife species in the area. However, applicant is to abide with the mitigation measures found in *the*, September 1999 Initial Study, for this project.
Type of ACOE permit: The Army Corps of Engineers will issued a Letter *of* Permission as part of the condition of this Waiver
California Department of Fish and Game 1601/1603 Agreement Notification No.: Applicant has submitted their Agreement for this project.
California Environmental Quality Act Compliance: Applicant has submitted a Notice of Determination that a Mitigated Negative Declaration has been adopted for this project.
Date public notice was initiated: 25 October 1999

We have reviewed your submittal. No significant threat to water quality should result from this activity. Therefore, pursuant to Regional Board Resolution No. 82-036, Waste Discharge Requirements (WDRs) are waived. Pursuant to California Code of Regulations Section 3857, this action is equivalent lo waiver of water quality certification. We anticipate no Further action on your application, however, should new

information come to our attention that indicates a water quality problem, we may issue WDRs.

Please be aware that this certification does not authorize discharge of stormwater from the project site. If your project comprises five acres or more of disturbed area, or less that Eve acres if the development is part of a larger common plan or development having a total area of five or more acres, your may need to obtain coverage under the NPDES General Permit for Stormwater Discharges Associated with Construction Activities issued by the State Water Resources Control Board. A copy of this Permit and accompanying Notice of Intent may he obtained from this office. Please contact Leo Sarmiento of this office at (916) 255-3049 for further information regarding Stormwater Permits.

If you have any questions, please call Michael Negrete, at (916) 255-3062.

Sue McConnell

SUE McCONNELL
Senior Engineer

MPN:mpn
file: c:wqc-dcid

CC LIST

Nancy Haley, U.S. Army Corps of Engineers, Sacramento
Wetlands Section Chief (W-3), U.S. Environmental Protection Agency, San Francisco
Frances McChesney, Office of Chief Counsel, State Water Resources Control Board, Sacramento
Bill Campbell, Chief, Non-Point Source, Loans and Certification Unit, State Water Resources Control Board, Sacramento
Department of Fish and Game, Region II, Rancho Cordova
Susan Wilson, Regional Water Quality Control Board, Sacramento
Robert Yeadon, DWR, Sacramento

CALIFORNIA STATE LANDS COMMISSION
100 ***Howe*** Avenue, Suite 100-South
Sacramento, **CA** 95825-8202

PAUL D. THAYER, Executive *Officer*
(916)574-1800 FAX (916) 574-1810
California Relay Service From TDD Phone **1-800-735-2922**
from Voice ***Phone*** **1-800-735-2923**

Confact Phone: **(916) 574-1822**
Contact FAX: **(916) 574-1955**

May 4, 2000

File Ref: W 25477

California Department of Fish and Game
Attn: Ed Littrell, Project Manager
Delta Flood Protection Program
1701 Nimbus Road
Rancho Cordova. **CA** 95670

Dear Mr. Littrell:

SUBJECT: **Delta In-Channel Islands Project**

Staff has reviewed the project drawings, prepared by Murray, Burns and Kienlen which were submitted to me by Kent Nelson on April 21, 2000, for the "Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands" for Webb Tracts 1,2,3 and Little Tinsley Island.

The State acquired sovereign ownership of all tidelands and submerged lands and beds of navigable waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all the people of the State for statewide Public Trust purposes that include, waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. The landward boundaries of the State's sovereign interests in areas that are subject to tidal action are generally based upon the ordinary high water marks of these waterways as they last naturally existed. In non-tidal navigable waterways, the State holds a fee ownership in the bed of the waterway between the two ordinary low water marks as they last naturally existed. The entire non-tidal navigable waterway between the ordinary high water marks *is* subject to the Public Trust. The State's sovereign interests are under the jurisdiction of the California State Lands Commission (CSLC).

It appears from the drawings that the project will be located within the beds of False River, Old River and the San Joaquin River, which at the, project locations are State sovereign lands under the jurisdiction of the CSLC. Therefore, a lease from the Commission will be required.

Enclosed is our standard application for you to complete to obtain a new lease. Please complete all sections of the application and return it to this office along with a check for $1,775 made payable to the State Lands Commission. The Commission is required to recover all costs associated with processing the lease; therefore, the $1,750 represents the Minimum Expense Deposit for this type of transaction and the $25 is a nonrefundable filing fee. Any monies of the $1,750 not used by staff will be refunded to you. The filing fee and Minimum Expense Deposit must be submitted with the application. You will need to submit the application, processing fees and any additional items requested as soon as **CALFED** funding has been granted for this project.

Please respond to those items I have highlighted in yellow on the enclosed application. If these items are described under the original environmental document you can reference the section and/or page number.

Upon receipt of the above information, staff will review and determine if your application is complete. If there are no additional comments or concerns from those addressed in our July 6, 1999, letter from the original Mitigated Negative Declaration (SCH 99092108) dated September 1999, staff will recommend approval of the project at an upcoming Commission meeting.

You will also be provided a reimbursement agreement, to be submitted to you under separate cover. Submittal of the executed reimbursement agreement will be required as part of the complete application, as well as the $1,750 Minimum Expense Deposit and $25 filing fee as stated above.

If you need further clarification regarding our application processing, you may contact me at (916) 574-1822.

Sincerely,

LORNA BURKS
Public Land Management Specialist

cc: Kent Nelson w/o attachments
Department of Water Resources

APPENDIX B

Existing Project #97-N11: Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

Status Report

Appendix B. Existing Project #97-N11: Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands

In 1997, DCI applied to CALFED for $3,138,670 to design and implement a project to demonstrate the potential of biotechnical erosion control methods for ICI protection and enhancement. In December of 1997, CALFED funded DCI $270,000 to design the demonstration project and provide environmental documentation and permits for the work. DCI has successfully completed this work (Phase I). **DCI** is **now** ready for Phase II **construction** funding.

Because of engineering constraints, and hydrodynamic forces at one of the originally proposed demonstration sites (Webb Tract Site #2), we have deleted Webb #2 from this proposal. The current proposal, including maps and figures, is described in main body of the CALFED proposal. The total funding requested from **CALFED** is **$1,037,150.**

Existing project vs. Proposed project

There is no difference between the "existing" project and the project described in this application. The "existing" project is the completed planning and design phase. This application requests funding to implement the design.

The only data collected for this project to date is baseline engineering, hydrology and biological. Additional data will be collected after the project is built.

Funding Options

DCI is sensitive to the fact that CALFED ecosystem restoration funds are limited. Therefore, we present below a funding option that eliminates one demonstration site and reduces the overall cost of the project. Either full funding or the partial funding option will provide CALFED with valuable information on the potential of biotechnical erosion control to provide protection for ICIs and other tidal wetlands in the Delta. The primary difference between the options is the richness of information collected as reflected by the variability of the environmental conditions at the project sites.

Both funding options include the $368,350 contribution from the AB 360 program for Webb Tract Site #3 construction. The Work Agreement **has** been signed and funds are available. No CALFED ***construction*** funds will be needed on Site #3. However, we are requesting supplemental funding for a CMARP-compliant monitoring plan, maintenance contingency, design inspection, and appropriate project oversight effort for Site #3. TABLE **1** in this appendix presents an itemization of funding needs for each of the project sites.

Table 1: Cost Summary for Project Components

Construction Cost	Total	Webb #1	Webb #3	L. Tinsley
Construction	$760,000	$150,000	$340,000'	$270,000
Final Design and Construction Specifications	$22,500	$7,500	$7,500'	$7,500
Subtotal	$782,500	$157,500	$347,500'	$277,500
Construction Management	$25,475	$5,225	$11,425*	$8,825
Construction Inspection	$23,475	$4,725	$10,425*	$8,325
Other Cost				
Subcontractor Administration	$10,970	$2,208	$4,872	$3,890
Design Inspection	$19,080	$4,988	$7,508	$6,584
Maintenance Contingency	$187,500	$62,500	$62,500	$62,500
Biological Monitoring	$187,500	$62,500	$62,500	$62,500
Project Coordinator	$75,000	$25,000	$25,000	$25,000
ABAG Administration	$94,000	$31,333	$31,333	$31,333
Total	$1,037,150	$355,979	$194,713 +$368,350*	$486,457

* Costs to be paid by the AB *360* program
Note: Shaded area indicates CALFED funding needed to supplement AB **360** construction funds on Webb Tract Site #3
Note: Information in Table **2** corresponds with Table **4** (Costs) of the this application.

Funding Option

Alternative A:

Delete Webb Tract Site #1 from proposed project. This small in-channel island is mostly underwater during the tidal cycle. It supports only emergent wetland plants such as bulrush. It is a challenging site due to severe environmental forces. Installing, securing and maintaining biotechnical features will be challenging. Nevertheless, the shallow water habitat associated with *this* project site is important to fishes of interest to CALFED and should be protected.

Total Project Cost: $1,037,150 (full funding) - $355,979 (Webb #1)= $681,171

APPENDIX C

Hydrologic Monitoring Plan

Mitchell Swanson Hydrology and Geomorphology

Mitchell Swanson
Hydrology & Geomorphology
835 Cedar Street Santa Cruz, California USA 95060
phone: 831-427-0288 fax: 427-0472 email:swanson@swansonh2o.com

Appendix C

March 31,1999

TO: Gilbert Cosio and Chris Kjeldsen

FROM Mitchell Swanson and Gary Kittleson, Swanson Hydrol

RE: ABAG Delta Islands - Monitoring Plan and Hydrodynamic Forces Report

Dear Gilbert and Chris,

Enclosed is a proposed hydrologic monitoring program and estimated budget for a three year period. Our approach differs somewhat from the Kjeldsen draft monitoring pian forwarded yesterday evening, March 30. It is our belief that we will learn enough after three years (perhaps sooner) to make good judgements about what works and what doesn't. The forces we are trying to protect against are fairly constant (wind and boat wakes and tidal currents) and vegetation response should be fairly rapid as the species we are working with grow rapidly. We may only miss out on large flood stage and winter winds storms; however local experience by MBK and KSN are being applied to the design review.

If the period is reduced to three years then the annual budget is $77,700.00 per year or $80,000 as a round number. This annual total has to be split among: 1) physical forces monitoring, 2) sediment accretion and erosion, 3) biological response (vegetative only) and 4) assessment of structure effectiveness. Because the budget is likely to be too constrained for biota monitoring, perhaps an agency [CDFG] could pick that up.

Our total estimated cost for hydrologic and physical forces monitoring is $121,800. As we discussed on the phone this afternoon, the labor costs are $62,800, equipment leasing will be $51,000, other direct expenses are estimated at $8,000. For #1 that would equate to about 3 months per year of continuous monitoring at selected locations and perhaps one all year monitoring location. For sediment accretion and erosion, we would limit the measurements to erosion pins in the nearshore zone three times per year (fall, spring late summer); for this budget and the required resolution, this should be adequate.

A mandatory cost saving would be to include the setup and installation of the monitoring system (erosion pins and data logger hardware and labor) and baseline transects surveys as project construction costs. The hydrology/wave monitoring system will consist of three Campbell Scientific CR10X dataloggers equipped with four pressure transducers to record tidal stages and wave sequences. The dataloggers will continuously record

changes in stage and wave height/period and can be downloaded monthly. The sensors will be arrayed so that wave height and period can be measured before and after waves pass through EERT structures and planting areas. Each period of record will then be analyzed in conjunction with the results of erosion pin measurements to assess effectiveness of EERT structures, under various wave and tidal conditions.

Task Descriptions

Task 1.1

We have set an objective to quantify and create an extended record of the forces exerted on the installed structures and to develop a data set for application at other sites in the Delta. We seek to extend work done by the USGS in 1972-73 that distinguished, quantified and extrapolated forces of wind, boat wakes and tidal and flood currents on levee erosion in Georgiana Slough and False River.

We propose installation of remote recording instrumentation to measure and quantify boat wake and wind generated wave power as well as tidal current and flood current power. The system we have identified would involve placement of 3 data loggers each equipped with 4 transducer probes. These probes can be placed on the inboard and outboard sides of the installed structures. With this system, we will be able to distinguish and quantify wave power forces exerted on the structures through analysis of wave amplitude, period, and frequency of occurrence. With total monitoring budget resources limited to say $233,100 (50% of the cost shown in the 3/30/99 draft proposal), we would be able to install two or three of these units (typically $8,000/yr. set up) and place them for extended periods at various locations. We will reduce monitoring in the winter high stage months to sites one location that is vulnerable to winter storm winds (Little Tinsley and Site 2 and or 3).

Tasks 1.2 and 1.5

These tasks could be combined into erosion pin monitoring which would also document accretion. Some topographic and bathymetric mapping would be required on transect lines, but that could be limited to baseline and "significant event" periods. For the purposes needed erosion pins could be measured three times per year for three years.

Measurement of erosion and accretion at erosion pins will give the project team finite measures of local changes in bank configuration. Other techniques like topo surveying with survey grade GPS, or standard rod and level surveys, may not adequately represent subtle changes in soft accreting substrates. The difficulty in measuring bed elevations in soft substrates is due to the weight of the survey rod itself, as well as the difficulty of locating exact sampling points in a submerged environment.

Erosion pins will be set up in transects that can correspond with vegetation transect/plots. Additional data on deep water scour/fill conditions may be derived measuring the height

of **pilings** above **mean** bed elevation. Evaluation of EERT performance will utilize all physical conditions measured, in addition to vegetation success.

Feel free to call if you have any questions.

APPENDIX D

Work Schedule Detail

APPENDIX **D. Work Schedule** Detail

Year 1

Task 1. Organizational
Subtask a. Administrative/Technical Support
Subtask b. Construction Administration

Schedule	Meeting organization and distribution of materials	July 2001 - June 2002
Products:	Contract negotiation and completion of contracts and subcontracts, submitted for review to NFWF	Aug. 2001
	DCI/contractors facilitation	July 2001 - June 2002
	Preparation of quarterlylfinal reports (4 timeslyear)	Oct., January, April, July 2001-2002
	Preparation of monthly accounting repts/contract oversight	July 2001 - June 2002
	Presentations to CALFED and others	As requested
	Final designs/specs for Webb # 1 and Little Tinsley	July - Aug.. 2001
	Design inspection of three islands during installation	Sept. - Nov. 2001
	Construction management/coordination/communication	Sept. - Nov. 2001
	Regular inspection of construction sites	Sept. - Nov. 2001
	Subcontract management/invoicing/reports	July 2001 - June 2002

Task 2. Construction
Subtask a. Webb Tract # 1 Construction
Subtask b. Little Tinsley Island

Schedule	Installed biotechnical erosion control techniques on Webb # 1	
Products:	and Little Tinsley Islands, photos, video of installation	Sept. - Nov. 2001

Task **3.** Monitoring
Subtask a. Final Monitoring Plans
Subtask b. Biological Monitoring

Schedule	Develop/review/ final monitoring plans for all three islands	July - Sept. 2001
Products:	Compile and analyze monitoring data on regular basis	Nov. 2001 - June 2002
	Submit reportsldata to CMARP in format as directed	Annually
	Provide photo/video record of sites to CALFED	Annually

Year 2

Task 1. Organizational
Subtask a. Administration/Technical Support

Schedule	Meeting organization and distribution of materials	July 2002 - June 2003
Products:	DCI/contractors facilitation	July 2002 - June 2003
	Preparation of quarterlylfinal reports (4 timeslyear)	Oct., January, April, July 2002 - 2003
	Preparation of monthly accounting repts/contract oversight	July 2002 - June 2003
	Presentations to CALFED and others	As requested

Task 2. Construction Maintenance

Schedule	Make site visits and schedule appropriate maintenance	July 2002 - June 2003
Products:	Maintain all installations	July 2002 - June 2003

Task **3.** Biological Monitoring

Schedule	Compile and analyze monitoring data on regular basis	July 2002 - June 2003
Products:	Submit reportsldata to CMARF in format as directed	Annually
	Provide photo/video record of sites to CALFED	Annually

Year 3

Task 1. Organizational

Subtask a. Administration/Technical Support

Schedule	Meeting organization and distribution of materials	July 2003 -June 2004
Products	Preparation of quarterly/final reports (4 timeslyear)	Oct., January, April July 2003 - 2004
	Preparation of monthly accounting reptslcontract oversight	July 2003 - June 2004
	Presentations to CALFED and others	As requested

Task 2. Construction/Maintenance

Schedule	Make site visits and schedule appropriate maintenance	July 2003 - June 2004
Products:	Maintain all installations	July 2003 - June 2004

Task 3. Biological Monitoring

Schedule	Compile and analyze monitoring data on regular basis	July 2003 - June 2004
Products:	Submit reportsldata to CMARP in format as directed	Annually
	Provide photo/video record of sites to CALFED	Annually

Year 4

Task 1. Organizational

Subtask a. Administration/Technical Support

Schedule	Meeting organization and distribution of materials	July 2004 - June 2005
Products:	Preparation of quarterlylfinal reports **(4** timeslyear)	Oct., January, April, July 2004 -2005
	Preparation of monthly accounting reports/contract oversight	July 2004 - June 2005
	Presentations to CALFED and others	As requested

Task 2. Construction Maintenance

Schedule	Make site visits and schedule appropriate maintenance	July 2004 - June 2005
Products:	Maintain all installations	July 2004 - June 2005

Task **3.** Biological Monitoring

Schedule	Compile and analyze monitoring data on regular basis	July 2004 - June 2005
Products:	Submit reportsldata to CMARP in format as directed	Annually
	Provide photo/video record of sites to CALFED	Annually

(Tasks are detailed in Section F.l Budget)

APPENDIX E

Landowner Permission to Enter Letters

Noble Yacht Club
California Department of Fish and Game

NOBLE YACHT GROUP, INC.

Philip R. Schaefer, Permit Co-Ordinator
3109 Jackson Place
Antioch, CA 94509
925-754-1872

12 March 1999

Delta In-Channel Islands Committee
C/O Kent Nelson
Department of Water Resources
3251 "S" Street
Sacramento, CA 95816

Dear Kent,

As requested by Margit Aramburu, I am sending this letter of Permission to you for the demonstration project that has been discussed. This letter was actually written about two years ago but evidently got misplaced.

As the Past President, and Permit Co-Ordinator of the Noble Yacht Group, Inc., a non-profit organization, it is our pleasure to allow the Delta In-Channel Islands Committee, to use our island as a demonstration project, for the purposes of determining the best methods, including hard and soft fixes, to use to protect the Delta In-Channel Islands from deterioration.

Our island is known as "Little Tinsley Island" and is located on the Stockton Deep Water Channel, between Light 11 and 13. The group owns the island known on the San Joaquin County records as parcel no. 071-020-0, comprising approximately 6.5 Acres (as recorded).

It is understood that the Committee is recommending that "Soft" fixes will be utilized on the Deep Water Channel side of the island and on the Eastern point, that consists of Brush Boxes, Coconut Rolls, and other types of Bio procedures. The area at the western end of the island has been protected using Rip-Rap. This was done in 1997, by Dutra Dredging.

We would be happy to lend assistance to the committee to help in accomplishing this task.

I will be the contact person in the event anyone needs access to the island or needs any information on the island including pictures and drawing.

Sincerely Yours,

Philip R. Schaefer

State of California

Memorandum

To : Mrs. Margit Aramburu, Chair
San Francisco Estuary Project
In-Channel Work Group
c/o Delta Protection Commission
14215 River Road
Walnut Grove, California 95690

Date : December 24,1997

From : Department of Fish and Game

Subject : Webb Tract ,Channel Islands Project

We continue to support the San Francisco Estuary Project's (SFEP) proposal at Webb Tract. Representatives or contractors of the SFEP may continue to enter our property for planning purposes. We retain the right to review plans and specifications before any physical work is started to ensure compatibility with management plans for these properties.

I have directed staff to complete their review of the coordination memorandum. I probably will sign it.

For further discussions you may contact Mr. Ed Littrell of my staff at 916-358-2924.

Banky E. Curtis
Regional Manager

STATE OF CALIFORNIA - THE RESOURCES AGENCY PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME
REGION 2
1701 NIMBUS ROAD. SUITE A
RANCHOCORWVA. CALIFORNIA *95670*
Telephone (916) 358-2900

May 19, 1997

Ms. Margit Aramburu
Executive Director, Delta Protection Commission
142 I5 River Road
Walnut Grove, California 95690

Dear Ms. Aramburu:

The Department of Fish and Game (DFG) grants permission for Dr. Chris Kjeldsen to conduct pre-project biological studies at DFG-owned channel islands around Webb Tract and to allow, from strictly a land ownership perspective, a restoratioddemonstration project to be conducted at one or more of the islands. Permission for this was requested in a letter dated May 9. 1997 (attached).

The DFG acquired fee title to most of the channel islands surrounding Webb Tract in 1986. The entire acreage at that time was about 285 acres. Since then, the acreage has diminished by an unknown amount. We recognize the importance of preserving and, where possible, restoring, these islands. Acquisition documents state, "(a) Management objective should be to preserve the habitat on the property." Potential for this exists through a project proposed by the Delta in-Channel Island Work Group of the San Francisco Estuary Project.

Webb Tract channel islands were proposed as potential project sites at the April **3,** 1997 regularly scheduled monthly meeting of the In-Channel Islands Working Group. These islands were included as part of the Project Selection Subcommittee's recommendation after thorough DFG internal coordination. Again, the DFG approval is only from a land ownership perspective, independent of the required approval processes under the California Environmental Quality Act, California Endangered Species Act, Fish and Game Code Section 1601/1603, etc.

We wish to clarify our understanding of the function of the project, and the types of measures which may be used. It is our understanding that the project will function, as much as possible, as an actual restoration and enhancement project. It is understood, however, that there are experimental elements to many of the measures which will be used in the project, particularly for this use in the Delta.

DFG permission for access for any person is contingent upon full compliance with State and Federal law, including compliance with the Fish and Game Code relative to capture or collection of specimens. We have established a successful working relationship with Dr. Kjeldsen with regard to many biological inventories in the Delta, and look forward to the opportunity to learn from the results of the research by him and his graduate students.

We appreciate your meny contributions to the efforts of the Delta In-Channel Islands Working Group, including efforts to facilitate pre-project studies of Delta channel islands. If you have any questions, please call Mr. Ed Littrell of my staff at (916) 358-2924.

Sincerely,

Bruce Barngrover

for Banky Curtis
Regional Manager

cc: Ms. Marcia Brockbank
San Francisco Estuary Project
2101 Webster St., Ste. 500
Oakland. CA 946**I2**

Dr. Chris Kjeldsen
923 St. Helena Ave.
Santa Rosa, CA 95404

Ms. Pat Perkins
Mr. Bob Mapes
Mr. Frank Gray
Mr. **Dan** Gifford
Department of Fish and Game
Rancho Cordova. California

Mr. Curt Schmutte
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